Neonatologist's
Pocket Drug Reference

Third Edition
2010

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Acetylcistein®

Acetylcysteine 200 mg effervescent sachets

Dose: 200 - 400 mg **PO** up to 3 times daily if necessary.[BNFC2009]

استيل سستاين فوار (كيس ٢٠٠ مجم/ ٤ سم ماء مقطر) ← ... سم بالفم /١٢ ساعة

Solution concentration 50 mg/mL.

USES

Meconium ileus.

Mucolytic; lowers the viscosity of the mucous and facilitates its removal by the mucociliary action.

It improves the phagocytic capacity of alveolar macrophages.

ADVERSE EFFECTS / PRECAUTIONS

Hypersensitivity-like reactions including rashes and anaphylaxis.

Avoid with peptic ulceration.

Acyclovir (Zovirax®)

250 mg / 5 mL Vial or 200 mg / 5 mL Susp.

Dose: 20 mg/kg/dose Q8h **IVI** over 1h, for 14 days (in localized HSV infections) or 21 days (in disseminated or CNS infections).

Prolong dosing interval to Q12h in PT < 34 wk PMA, in RF or LCF.

Dose: 7S mg/kg/dose Q12h **PO** for chronic suppression.

زوفيراكس (٢٥٠ مجم / ٥ سم) (١ سم + ٩ سم) ← ... سم/ ٨ ساعات وريد على مدى ساعة

Infusion solution concentration S mg/mL.

Dilution should be used within 24h. **Don't refrigerate.**

زوفيراكس شراب (٢٠٠ مجم / ٥ سم) ← ... سم/ ١٢ ساعة بالفم

RENAL IMPAIRMENT

Cr Cl 2S-S0 mL/min/1.73m^2 ⇨ IV dose Q12h

Cr Cl 10-2S mL/min/1.73m^2 ⇨ IV dose Q24h

Cr Cl 10-25 mL/min/1.73m^2 ⇨ For HZV PO Q8h

Cr Cl <10 mL/min/1.73m^2 ⇨ For HZV or HSV PO Q12h

USES

Neonatal HSV, VZV with CNS and pulmonary involvement.

MONITOR

Periodic CBC.

Serum concentration 2h after dose is ~2 µg/mL.

Renal and hepatic function.

IV site for phlebitis → use more diluted infusion.

ADVERSE EFFECTS / PRECAUTIONS

Neutropenia (20%) →↓ dose or use **Neupogen®** if ANC < S00/mm^3.

Phlebitis at IV site (due to alkaline pH of 10).

Transient renal dysfunction and crystalluria → slow infusion rate, good hydration.

Adrenaline 1 mg / mL

Severe **bradycardia, hypotension:** 0.1 - 0.3 mL/kg of 1:10.000 concentration (equal to 0.01-0.03 mg/kg), **IV push** or **IC**.

Given via **ETT** in high doses up to 0.1 mg/kg, followed by 1 mL NS.

ادرينالين (١ مجم / ١ سم) (١ سم + ٩ سم) ← ١٠-٣٠ شرطة بسرنجة أنسولين ١٠٠/كجم وريد أثناء انعاش القلب

IVI: Start 0.1 µg/kg/min, adjust to desired response, max. of 1 µg/kg/min. **Protect from light.Incompatible with $NaHCO_3$.**

ادرينالين (١مجم/١سم) (١سم + ٤٩سم) ← وريد على مدى ٢٤ ساعة بمعدل ... سم/الساعة

Aerosol Therapy:0.05-0.15 mL of 1:1000 concentration diluteted with NS to 3 mL, Q½h, maximum 4 doses. Gomella2009

٥ - ١٥ شرطة بسرنجة أنسولين ١٠٠**ادرينالين** (١مجم/١سم) + ٣ سم م م **نيبولايزر**

a 1:100 (1%) solution contains 10 mg in 1 ml
a 1:1000 (1‰) solution contains 1 mg in 1 ml
a 1:10,000 solution contains 0.1 mg in 1 ml

USES

Acute cardiovascular collapse. When adequate ventilation and chest compression have failed to increase the HR > 60 bpm.
Short-term use for systemic hypotension.
In older infants, may be used SC to relief of bronchospasm.

MONITOR

Heart rate,blood pressure and IV site for signs of infiltration.

ADVERSE EFFECTS / PRECAUTIONS

If possible correct acidosis before administration of epinephrine to enhance the effectiveness of the drug.
Hypokalemia and ↑ serum lactate.
Hyperglycemia.
Cardiac arrhythmias (premature ventricular complexes and VT).
Renal vascular ischemia (**add low dose of dopamine with IVI**).
Bolus→Severe hypertension with intracranial hemorrhage.
↑ Myocardial oxygen requirement.
IV infiltration causes tissue ischemia and necrosis.

Amikin®

Amikacin 500 mg / 2 mL

1

Dose: as table **IVI** over 30 min

أميكين (٥٠٠مجم/٢سم) (½سم + ٢٤.٥ سم) ← ... سم يكمل حتى ١٠ سم **وريد** على مدى نصف ساعة / ... ساعة

أميكين (٥٠٠ مجم / ٢ سم) ← ... شرطة بسرنجة انسولين ١٠٠ **عضل** / ٢٤ ساعة

Infusion solution concentration 5 mg/mL.

Also available in 100 mg per 2 mL vials

IM injection is associated with variable absorption especially in the very small infants.

PMA (wk)	Postnatal (d)	Dose (mg/kg)	Interval (h)
≤ 29 *	0-7	18 (3.6 mL)	48
	8-28	15 (3 mL)	36
	≥ 29	15	24
30-34	0-7	18	36
	≥ 8	15	24
≥ 35	All	15	24

* or significant asphyxia, PDA or ttt with indomethacin.

USES

G-ve Bacilli - resistant to other aminoglycosides - usually combined with a β-lactam antibiotic (in separate infusion).

ADVERSE EFFECTS

Transient and reversible renal tubular dysfunction →↑ urinary loss of Na, Ca, and Mg.

Vestibular and auditory ototoxicity.

↑Neuromuscular blockade when used with pancuronium and in patients with hypermagnesemia.

PRECAUTIONS

The use of other oto- and nephrotoxic drugs (lasix / vancomycin) may ↑ these side effects.

Amikin®

Amikacin 500 mg / 2 mL

2

SERUM LEVEL

Obtain peak concentration 30 minutes after end of infusion or 1 hour after IM injection and trough level just prior to the next dose, refrigerate blood sample soon.

Peak: 20-30 µg/mL	**Trough:** 2-5 µg/mL

INTERACTIONS WITH

Analgesics: plasma concentration of amikacin and gentamicin possibly ↑ by indometacin.

Antibacterials: ↑ risk of nephrotoxicity and ototoxicity when given with teicoplanin or vancomycin; possible ↑risk of nephrotoxicity when given with cephalosporins.

Amphotericin: ↑ risk of nephrotoxicity.

Digoxin: gentamicin possibly ↑ plasma concentration of digoxin.

Loop Diuretics: ↑ risk of otoxicity.

Human Albumin 20%

Dose	S mL/kg/dose **IV**lover 2 hour.
Indications	As a volume expander 1:3 D_5W For hypoalbuminemia 1:1 D_5W

Use vial within 4h of opening.

Indication	IV Dosage	Administration
Hypovolemia	0.5-1 g/kg/dose	Infuse 5% albumin over >60 min, may be infused more rapidly (10-20 min) in hypovolemic shock, repeat as needed
Hypoalbuminemia	0.5-1 g/kg/dose	Infuse 5% albumin over >2h, repeat q1-2d. Dilutions may be made with NS or D_5W in cases of Na restriction

USES

Severe hypoalbuminemia associated with low plasma volume and generalized edema where salt and water.

Adjunct in treatment of hyperbilirubinemia by exchange transfusion.

Paracentesis of large volume ascites associated with portal hypertension.

CONTRAINDICATIONS

Cardiac failure.

Severe anemia.

ADVERSE EFFECTS / PRECAUTIONS

Hypersensitivity reactions (anaphylaxis and urticaria)..

Nausea and vomiting.

Fever, tachycardia and chills.

Atropine 1 mg / mL

IV or IM: 0.01-0.03 mg/kg/dose over 1 min, Q10-15min to achieve desired effect, till maximum dose of 0.04 mg/kg.

ET: 0.01-0.03 mg/kg/dose immediately followed by 1 mL NS.

PO: begin with 0.02 mg/kg/dose Q4-6h, may ↑ gradually to 0.09 mg/kg/dose.

أتروبين (١ مجم / ١ سم) (١ سم + ٩ سم م م) ← ... سم وريد أو عضل

Infusion solution concentration0.1 mg/mL

USES

Reversal of severe sinus bradycardia, particularly when parasympathetic influences on heart (digoxin, beta-blockers, hyperactive carotid sinus reflex) predominate.

↓The muscarinic effects of neostigmine when reversing neuromuscular blockade.

MONITOR

Heart rate.

ADVERSE EFFECTS / PRECAUTIONS

Cardiac arrhythmias particularly during the first 2 minutes following IV use.

Fever, especially in brain-damaged infants.

Abdominal distension with decreased bowel activity.

Esophageal reflux.

Mydriasis and cycloplegia.

Atrovent®

Ipratropium Bromide 250-500 µg / 2 mL

Dose: 75-175 µg **via jet nebulizer** Q6-8h

Dose: 25 µg/kg/dose **via nebulizer** Q8h [Gomella2009]

اتروفنت (٢٥٠ ميكروجرام/ ٢ سم) ← (٠.٦ سم + ٢ سم م م) نيبولايزر / ٦-٨ ساعات

اتروفنت (٥٠٠ ميكروجرام/ ٢ سم) ← (٠.٣ سم + ٢ سم م م) نيبولايزر / ٦-٨ ساعات

USES

Anti-cholinergic bronchodilator for primary treatment of COPD and adjunctive treatment of acute bronchospasm (peak effect within 1-2h, duration of effect 4-6h).

Not used for bronchiolitis.

Bronchodilator effect may be potentiated when given wirh ß-2 agonist i.e. albuterol. Both drugs are compatible when admixed if given within 1 h.

ADVERSE EFFECTS

Temporary blurring of vision

Precipitation of narrow-angle glaucoma or eye pain (if solution comes into direct contact with the eyes).

Augmentin®

Amoxycillin/Clavulanic acid 600 mg / 60 mL

PT and Neonates < 7 days: 30 mg/kg **IV** Q12h

Neonate 7–28 days: 30 mg/kg **IV** Q8h [BNFC 2009]

أوجمنتين (٦٠٠ مجم / ٦٠ سم) ← ... سم وريد ببطء/ ... ساعة

Infusion solution concentration10 mg/mL.

0.25 mL/kg of the 156 mg/ S mL susp. **PO** Q8h. [BNFC 2009]

أوجمنتين شراب (١٥٦ مجم / ٥ سم) ← ... سم بالفم / ٨ ساعات

أوجمنتين نقط (٦٢.٥ مجم / سم) ← بالقطارة عند علامة الوزن /٨ ساعات

Flumox®

Amoxycillin / Flucloxacillin 500 mg / 5 mL

Dose: 100 mg/kg/dose **IM** Q12h

فلوموكس (٥٠٠ مجم / ٢ سم) ← ... سم عضل /١٢ ساعة

USES

Broad-Spectrum antibiotic against H. influenzae, N. gonorrhea, E. coli, Pneumococci, Streptococci, and certain strains of Staphylococci.

ADVERSE EFFECTS / PRECAUTIONS

Diarrhea, vomiting

Hypersensitivity reactions, jaundice, fever.

Pseudomembranous colitis

RENAL IMPAIRMENT (IV ROUTE)

Cr Cl 10-30 mL/min/1.73m^2 ⇨ use normal initial IV dose then half dose Q12h

Cr Cl <10 mL/min/1.73m^2 ⇨ use normal initial IV dose then half dose Q24h

RENAL IMPAIRMENT (PO ROUTE)

GFR 10-30 mL/min/1.73m^2 ⇨ use normal dose Q12h

GFR<10 mL/min/1.73m^2 ⇨ use half normal dose Q12h

Azactam®

Aztreonam 1 g / 50 mL

Dose: 30 mg/kg/dose **IVI** over 5-10 min or **IM**.

ازكتام (١ جم / ٥٠ سم) ← ... سم وريد ببطء شديد /٨ ساعات

Infusion solution concentration 20mg/mL.

PMA Weeks	Postnatal days	Interval hours
≤ 29	0-28	12
	>28	8
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	6

RENAL IMPAIRMENT

Cr Cl 10-30 mL/min/1.73m^2 ⇨ use normal initial dose then half dose

Cr Cl <10 mL/min/1.73m^2 ⇨ use normal initial dose then one-quarter dose

USES

Bactericidal against aerobic G-ve organisms (e.g. E.coli, H.influenza, Pseudomonas, and Serratia). Usually used with ampicillin (empirical) or aminoglycosides (synergistic against Pseudomonas and Enterobacteriaceae).

MONITOR

Serum glucose 1h after administration.

Periodic CBC, AST, ALT.

ADVERSE EFFECTS / PRECAUTIONS

Provide adequate amounts of glucose to avoid hypoglycemia; contains 780 mg L-arginine / g.

Eosinophilia.

↑ Serum ALT, AST.

Phlebitis at the injection site.

Bebe-vit® Drops

Vitamin	Per 1 mL
A	1.500 IU
D	400 IU
E	5 mg
C	40 mg
Thiamine (B_1)	0.5 mg
Riboflavin (B_2)	0.6 mg
Nicotinamide (B_3)	8 mg
Pyridoxine(B_6)	0.6 mg

بيبي فيت ← ١ سم بالفم أو بالرايل / ٢٤ ساعة

Sodium Bicarbonate 8.4 %

1 mEq $NaHCO_3$ / mL

Usual dose:1-2 mEq/kg **IVI** over 30 min.

Dose (in mEq) based on Base Deficit = 0.3 X Base deficit (mEq/L) X weight (kg). **Give ½ dose then assess need.**

Dose (in mEq) based on HCO_3 level = 0.5 X[24 - serum HCO_3^- (mEq/L) X weight (kg)]. **Give ½ dose then assess need.**

Dose in RTA: 2-3 mEq/kg/day in divided doses for type I and type IV. Proximal RTA (type II) requires larger doses, as high as10mEq/kg/day.

Can be administrated also by continuous **IVI** or **PO.**

صوديوم بيكربونات (٨.٤٪) ← ... سم + ... سم ج٥٪ وريد على مدى نصف ساعة

Maximum Concentration 0.5 mEq/mL.

Na Content is 1 mEq/mL.

Also available as Sodium Bicarbonate 5 % (0.6 mEq/mL).

USES

Documented metabolic acidosis during prolonged resuscitation after establishment of effective ventilation:

- ↓ Pulmonary vascular resistance.
- Improves myocardial function.
- ↑ Response of myocardium to sympathomimetics.

Bicarbonate deficit by renal or GI losses.

MONITOR

ABG.

ADVERSE EFFECTS

IVH (due to rapid infusion).

↑PCO_2→ ↓pH (if given during inadequate ventilation).

Local tissue necrosis.

Hypocalcemia.

Hypernatremia.

Brufen®

Ibuprofen 100 mg / 5 mL Syrup

First dose 10 mg/kg
Second and third doses 5 mg/kg
Administer **IVI** by syringe pump over 15 minutes at 24 h interval
Course may be repeated after 48 hours if necessary. BNFC2009

بروفين شراب (١٠٠ مجم / ٥ سم) ← ... بالرايل / ٢٤ ساعة

USES

Closure of PDA.
Not indicated for IVH prophylaxis.

MONITOR

Urine output.
Assess for ductal closure.
Signs of bleeding.

ADVERSE EFFECTS

Less severe decrease in UOP than indomethacin.
Inhibit platelet aggregation.
Contraindicated in preterms with infection, active bleeding, thrombocytopenia or coagulation defects, NEC, significant renal dysfunction and duct-dependent systemic blood flow.

INTERACTIONS WITH

Antifungals: plasma concentration is↑ by voriconazole.

Caffeine Citrate 1 g / 100 mL

LD: 20-25 mg/kg **IV** over 30 min or **PO**

MD: 5-10 mg/kg/dose Q24h **IV** slowly or **PO**

كافيين سيترات شراب (١جم/١٠٠سم) ← ... سم بالفم بعد الرضاعة / ٢٤ ساعة

USES

Neonatal Apnea, including post-extubation and post anesthesia (antagonizes adenosine →↑ Respiratory center output, chemoreceptor sensitivity to CO_2, smooth muscle relaxation and COP).

MONITOR

5erum level on D5 of therapy (5-25 µg/mL).

Monitor HR; withdraw if > 180 bpm.

Agitation.

ADVERSE EFFECTS

Restlessness.

Vomiting.

Functional Cardiac symptoms.

May be associated with NEC (not proved).

Calcium Chloride 10%

Acute ttt of symptomatic hypocalcemia: 0.35-0.7 mL/kg/dose **IV**. Dilute, then infuse over 10-30 min while monitoring for bradycardia. **Stop if HR < 100 bpm.**

Maintenance ttt: 0.75-3 mL/kg/day **IVI** for 3-5 days.

In exchange transfusion: 0.33 mL/100 mL blood **exchanged, IVI** over 10 to 30 min.

كالسيوم كلورايد ١٠٪ ← ... سم + ... سم ج ٥٪ وريد ببطء شديد / ٦ ساعات

Each 100 mg = 1 mL = 26.7 mg elemental Ca

USES

Treatment and prevention of hypocalcemia (< 8 mg/dL)

MONITOR

Serum Ca level

Check IV site for extravasation

Correct ↓Mg if present.

Bradycardia (IV).

GI tolerance (PO).

ADVERSE EFFECTS

More likely than calcium gluconate to cause metabolic acidosis.

Bradycardia or cardiac standstill with rapid infusion

Bolus infusion by UAC is associated with intestinal bleeding and lower-extremity tissue necrosis.

Infusion by UVC may result in hepatic necrosis if it is lodged in a branch of the portal vein.

Calcium Gluconate 10%

Acute ttt of symptomatic hypocalcemia: 1-2 mL/kg/dose **IV**. Dilute, then infuse over 10-30 min while monitoring for bradycardia. **Stop if HR < 100 bpm.**

Maintenance ttt: 2-8 mL/kg/day **IVI** for 3-5 days.

In exchange transfusion: 1 mL/100 mL blood exchanged **IVI** over 10 min.

كالسيوم جلوكونات ١٠٪ ← ... سم + ... سم ج ٥٪ وريد ببطء شديد /٦ ساعات

Each 100 mg = 1 mL = 10 mg elemental Ca

IV calcium solutions are incompatible with $NaHCO_3$ since calcium carbonate will precipitate.

USES

Treatment and prevention of hypocalcemia (<8 mg/dL).

MONITOR

Serum Ca level.
Check **IV** site for extravasation
Bradycardia (IV)
GI tolerance (PO)

Early hypocalcemia is common in asphyxiated infants, PT and IDM. It may occur also with alkalosis or following exchange transfusion.

Signs of hypocalcemia include muscle twitching, jitteriness, generalized seizures, QTc above 0.4 sec.

Capoten®

Captopril 25 mg tab.

Initial Dose: 0.01 - 0.05 mg/kg/dose **PO** Q8-12h. Adjust dose and interval based on response. **Administer 1 h before feeding.**

كابوتين (½ قرص ٢٥ مجم / ١٢.٥ سم ماء مقطر) ← ... شرطة بسرنجة انسولين ١٠٠ بالفم قبل الرضاعة بساعة / ١٢ ساعة

Solution concentration 1 mg/mL.

USES

Moderate to severe hypertension.
Afterload reduction in patients with CHF.

MONITOR

Blood pressure, particularly after the first dose.
Renal function and serum K^+.

ADVERSE EFFECTS / PRECAUTIONS

↓ Cerebral blood flow (seizures, apnea, and lethargy).
↓ Renal blood flow (oliguria).
↑ K^+ (primarily in patients receiving K-sparing diuretics or K supplements).
Contraindicated in patients with bilateral renovascular disease or with unilateral renal artery stenosis in a solitary kidney.

INTERACTIONS WITH

General Anesthetics: ↑ hypotensive effect.
NSAIDs: ↑ risk of renal impairment, also hypotensive effect antagonized.
Antacids: absorption of ACE inhibitors possibly↓.
Heparins: ↑ risk of hyperkalemia.
Beta-blockers: ↑ hypotensive effect.
Calcium-channel Blockers: ↑ hypotensive effect.
Digoxin: captopril possibly ↑ plasma concentration of digoxin.
Corticosteroids: hypotensive effect of ACE-i is antagonized.
Diazoxide: ↑ hypotensive effect.
Diuretics: ↑ hypotensive effect; ↑ risk of severe hyperkalemia with K^+ sparing diuretics and aldosterone antagonists (monitor K^+ concentration with low-dose spironolactone in heart failure).
Potassium Salts: ↑ risk of severe hyperkalemia.
Prostaglandins: ↑ hypotensive effect.

Ceclor ®

Cefaclor susp. 125 mg / 5 mL

For children 1 m - 12 y: 20 mg/kg/day in 3 divided doses, doubled for severe infection (usual max. 1 g daily).[BNFC2009]

سيكلور شراب (١٢٥ مجم / ٥ سم) ← ... سم / ٨ ساعات.

USES

Acute Otitis Media Infection, H. Influenzae Pneumonia, Lower Respiratory Infections, Pharyngitis, Pneumonia, Skin Infection, Strept. Pneumonia, Tonsillitis, URT Infection, UTI Infections.

ADVERSE EFFECTS

Most Frequent:

Serum Sickness, Vulvovaginal Candidiasis.

Less Frequent:

Abdominal Pain with Cramps, Diarrhea, Nausea, Oral Candidiasis, Vomiting.

Rare:

Allergic Reactions, Anaphylaxis, Angioedema, Drug Fever, Erythema, Erythema Multiforme, Hemolytic Anemia, Hypoprothrombinemia, Pruritus of Skin, Pseudomembranous Enterocolitis, Renal Disease, Seizure Disorder, Skin Rash, Stevens-Johnson Syndrome.

Cefazolin® 1 g / 10 mL

Dose: 25 mg/kg/dose **IV slow push** or **IM**.

سيفازولين (١ جم /١٠سم) (١ سم + ٩ سم) ← ... سم وريد / ٨ ساعات

سيفازولين (١ جم /٤سم) ← ... سم عضل / ٨ ساعات

Brands include: Totacef® and Zinol® 500 mg and 1 g vials.

PMA Weeks	Postnatal days	Interval hours
≤ 29	0-28	12
	>28	8
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	6

USES

It's a bactericidal 1st generation cephalosporin, mainly G+ve with poor CNS penetration.

Peri-operative infection prophylaxis.

UTI and soft tissue infections caused by e.g. penicillin resistant Staph. aureus, Klebsiella, and Proteus.

ADVERSE EFFECTS (RARE)

Phlebitis

Eosinophilia

Cefdin®

Cefdinir 125 mg / 5 mL susp.

Dose: 14 mg/kg/day **PO.**

Once-daily dosing is as effective as twice daily dosing.

سيفدين شراب (١٢٥ مجم / ٥ سم) ← ... سم بالفم / ١٢ ساعة

USES

A 3rd generation cephalosporin that is active against **G-ve** organisms including H. influenza, Enterobacteriaceae, Citrobacter sp., E. coli, Klebsiella and Proteus.

Active against **G+ve** organisms such as Staph. aureus, Staph. epidermidis, strept. pneumonia and Strept. pyogenes.

ADVERSE EFFECTS (RARE)

Diarrhea, loose stools

Nausea, vomiting, abdominal pain

Abnormal liver tests.

Allergic reactions.

Storage

Keep suspension in the fridge for up to 10 days after reconstitution.

Cetal®

Acetaminophen 250 mg / 5 mL syrup

Oral Dose: LD 20-25 mg/kg **MD** 12-15 mg/kg/dose.

Rectal Dose: LD 30 mg/kg **MD** 12-18 mg/kg/dose.

INTERVAL:

FT Q6h **... PT ≥ 32 wk GA** Q8h **... PT < 32 wk GA** Q12h.

IV Dose [BNFC2009]**:** 7.5 mg/kg Q4-6h; **max.** 30 mg/kg/day.

سيتال شراب (٢٥٠ مجم /٥سم) ← ... سم/ ... ساعة

سيتال قطارة (١٠٠ مجم / ١ سم) ← ... نقطة بالفم / ... ساعة

سيتال لبوس أطفال (١٢٥ مجم) ← ... لبوس شرجي / ... ساعة

برفالجان (١٠ مجم / سم) ← ... سم وريد على مدى ربع ساعة

Use **Perfalgan®** either undiluted or dilute to a concentration of 1 mg/mL in D_5W or N5; use within **1h** of dilution.

USES

Fever reduction
Mild to moderate pain

MONITOR

Signs of pain
Temperature
Liver function

ADVERSE EFFECTS

Liver toxicity (if prolonged > 48h or excessive dosing)
Rash, fever.
Thrombocytopenia, leucopenia and neutropenia

TREATMENT OF TOXICITY

N-acetylcysteine

LD: 150 mg/kg in D_5W **IVI** over 30 minutes.

MD: 50 mg/kg **IVI** over 4h then 100 mg/kg over 16h until clinical and biochemical markers of hepatic injury improve (e.g. INR normalizes).

Chloral Hydrate 500 mg / 5 mL

Dose: 25-75 mg/kg/dose **PO** or **PR**.

Onset within 10-15 min.

كلـورال هيدرات ← ... سم بالفـم عنـد اللـزوم (نصف الوزن)

USES

Sedative-Hypnotic for short term use only (onset of action within 10-15 minutes).

No analgesic properties.

MONITOR

Level of sedation.

ADVERSE EFFECTS / PRECAUTIONS

Oral preparation should be diluted or administrated after a feeding to reduce gastric irritation.

Bradycardia

Acute overdose: CNS, respiratory and myocardial depression, cardiac arrhythmias, ileus and bladder atony.

Indirect hyperbilirubinemia.

Don't use with significant hepatic or renal disease.

Ciprofloxacin

Rancif® 200 mg / 100 mL

Dose: 10 mg/kg/dose Q12h **IV**over 30–60 minutes.
Treatment is usually continued for 10–14 days

سيرو (٢٠٠ جم / ١٠٠ سم) ← ... سم وريد على مدى نصف ساعة / ١٢ ساعة

Infusion solution concentration 2 mg/mL.

USES

Mainly **G-**ve; salmonella, shigella, campylobacter, neisseria and pseudomonas.
Moderate activity against **G+**ve; Strept. pneumoniae (not used for pneumococcal pneumonia) and Entercoccus faecalis.
Chlamydia and some mycobacteria.
Most anaerobes are not susceptible.
Avoid use with MRSA (resistant).

MONITOR

Liver function

ADVERSE EFFECTS / PRECAUTIONS

Nausea, vomiting, and diarrhea
Skin rash, or abnormal liver function.
Fluoroquinolones may damage growing cartilage and cause an arthropathy. Thus not routinely recommended for patients < 18 years of age. However, since the arthropathy is reversible, fluoroquinolones may be used in children in some cases (e.g. for treatment of pseudomonal infections in patients with cystic fibrosis).

RENAL IMPAIRMENT

Cr Cl <20 mL/min/1.73m^2 ⇨ use half normal dose

Claforan®

Cefotaxime 500 mg / 5 mL

Dose: 50 mg/kg/dose **IVI** over 30 min, or **IM**. Dose doubled in severe infection and meningitis.

Gonococcal Ophthalmia Prophylaxis if mother has gonorrhea at the time of delivery: 100 mg/kg/dose **IVI** over 30 min once.

Gonococcal Infections: 25 mg/kg/dose **IVI** over 30 min, or **IM**.

كلافـوران (٥٠٠ مجم /٥سم) ← ... سم وريد / ... ساعة

Infusion solution concentration 100 mg/ml.

كلافـوران (٥٠٠ مجم /٢سم) ← ... شرطة بسرنجة انسولين ١٠٠عضل / ... ساعة

RENAL IMPAIRMENT

Cr Cl <5 mL/min/1.73m^2 ⇨ use usual initial IV dose then half dose

PMA (wks)	Postnatal (D)	Interval (h)
≤ 29	0-28	12
	>28	8
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	6

USES

Neonatal meningitis and sepsis by **G-ve** organisms (e.g. E.coli, H.influenza, Klebsiella, Pseudomonas)

Disseminated gonococcal infections.

MONITOR

Periodic CBC.

ADVERSE EFFECTS (RARE)

Rash, Phlebitis and Diarrhea

Leucopenia, granulocytopenia, and eosinophilia.

Clexane®

Enoxaparin sodium (LMWH) 100 mg / mL

Initial Treatment Of Thrombosis:

FT infants 1.7 mg/kg/dose Q12h **SC**.

PT infants 2 mg/kg/dose Q12h **SC**.

Infants > 3m of age 1 mg/kg/dose Q12h **SC**.

Adjust dose to maintain anti-factor Xa level between 0.5-1 units/mL.

Low Risk Prophylaxis:

Dose 0.75 mg/kg/dose Q12h **SC**.

Infants > 3m of age 0.5 mg/kg/dose Q12h **SC**.

Adjust dose to maintain anti-factor Xa level 0.1-0.4 units/mL.

كلكسان (١٠٠ مجم / سم) ← ... شرطة تحت الجلد / ١٢ ساعة

USES

Anticoagulation.

MONITOR

Anti-factor Xa 4h after a dose. After attaining target level, dose adjustment is needed 1-2 times/month.
Signs of bleeding and thrombosis.

ADVERSE EFFECTS

Bleeding (even in therapeutic range) 4%.
Hematoma at administration site.
Compartement syndrome
IC and GI hemorrhage.

Colimex®

Colistin Sulphate 50.000 unit / mL

Dose: 0.75 mL/kg/dose **PO** Q8h.

كوليمكس شراب (٥٠٠٠٠ وحدة / سم) ← ... سم بالفم / ٨ ساعات

USES

Not used for GI infections by oral route but used for gut sterilization.

Cymevene®

Ganciclovir 500 mg / 10 mL

Dose: 6 mg/kg/dose Q12h **IVI** over 1h for a minimum of 6 weeks.

سيميفين (٥٠٠ مجم / ١٠ سم) (١ سم + ٩ سم) ← ... سم وريد على مدى ساعة / ١٢ ساعة

Infusion solution concentration 10 mg/ml.

USES

Prevention of progressive hearing loss in babies with symptomatic congenital CMV infection.

MONITOR

CBC every 2-3 days during 1st 3 weeks, then weekly if stable.

ADVERSE EFFECTS

Significant neutropenia in majority of patients. Reduce the dose by half if < 500 cells/mm^3. Stop if not resolved.

Anemia and thrombocytopenia.

Dalacin-C®

Clindamycin 600 mg / 4 mL

Dose: 5-7.5 mg/kg/dose **IVI** over 30 minutes, or **PO**.

دالاسين-سي (٦٠٠ مجم / ٤ سم) (٠.٥ سم + ١٤.٥ سم) ... ← سم وريد على مدى نصف ساعة / ٨ ساعات

Infusion solution concentration 5 mg / mL.

PMA weeks	Postnatal days	Interval hours
≤ 29	0-28	12
	>28	8
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	6

↑ **Dose interval in significant liver disease.**

USES

Bacteriostatic for bacteremia, pulmonary and deep tissue infections by *onerobic* bacteria and some G+ve cocci.

Should *NOT* be used in ttt of meningitis (poor CSF penetration).

MONITOR

Liver function, GI status.

ADVERSE EFFECTS

Pseudomembronous colitis (Bloody diarrhea, abdominal pain, and fever) → discontinue, bowel rest, TPN, oral metronidazole.

Decadron® or Fortecortin®

Dexamethasone 8 mg / 2 mL

1

DART (Dexamethasone: A Randomized Trial) Protocol

0.075 mg/kg/dose	Q12h	for 3 days
0.05 mg/kg/dose	Q12h	for 3 days
0.025 mg/kg/dose	Q12h	for 2 days
0.01 mg/kg/dose	Q12h	for 2 days

Given **IV** slow push or **PO** Total of 10 days.

ديكادرون (٨مجم / ٢ سم) (١ سم + ٣ سم م م) ← ... وريد / ١٢ ساعة

Infusion solution concentration1 mg/mL.

USES

Anti-inflammatory used to facilitate extubation and improve lung function in infants at higher risk for developing CLD.

ADVERSE EFFECTS

↑ Risk of CP. No ↑ in risk of ROP.

GI perforation and hemorrhage occur more in patients treated beginning in D1 and in those treated concurrently with indomethacin (don't give them concurrently).

Hyperglycemia and glycosuria. DKA?

Hypertension, Na^+ and water retention.

Cardiac effects on D14 include ↑ LV wall thickness with outflow tract obstruction, transient impairment of LV filling and ST segment depression.

Hypokalemia, hypocalcemia, Hypertriglyceridemia.

↑ Risk of sepsis.

Renal stones (in patients receiving **Lasix®**).

Osteopenia and inhibition of growth

Adrenal insuffieciency due pituitary suppression.

Decadron® or Fortecortin®

Dexamethasone 8 mg / 2 mL

2

MONITOR

Blood pressure and hyperglycemia during acute illness.
Lipid profile (hyperlipidemia).
Guaiac gastric aspirate.
Echocardiography if treating longer than 7 days.

INTERACTIONS

ACE Inhibitors: corticosteroids antagonise hypotensive effect.
Analgesics:↑ risk of GI bleeding and ulceration when given with NSAIDs.
Antibacterials: metabolism is possibly inhibited byerythromycin.
Antiepileptics: metabolism is acceleratedby phenytoin (reduced effect)
↑Risk of hypokalemia when given with**amphotericin** - avoid concomitant use unless corticosteroids needed to control reactions.
Barbiturates: metabolism is acceleratedby barbiturates (reduced effect).
Beta-blockers: corticosteroids antagonise hypotensiveeffect.
Calcium Salts: corticosteroids reduce absorption.
Cardiac Glycosides:↑ risk of hypokalemia.
Diazoxide: corticosteroids antagonise hypotensive effect.
Diuretics: corticosteroids antagonize effect; ↑ risk of hypokalemia when given with acetazolamide, loop diuretics or thiazides and related diuretics.
Sodium Benzoate: corticosteroids possibly ↓ effects.
Theophylline:↑ risk of hypokalemia.
Vaccines: high doses impair immune response to vaccines, avoid concomitant use with live vaccines.
Hydralazine: corticosteroids antagonize its hypotensive effect.

Orazone®

Dexamethazone 0.5 mg /5 mL

أورازون شراب (٠.٥ مجم / ٥ سم) ← ... سم بالفم / ١٢ ساعة

Phenadone® Syrup contains 0.5 mg Dexamethasone and 2 mg Chlorpheniramine maleate per 5 mL

Dexamethasone for Severe BPD

Begin treatment after D7 but before D14 of life.

Short Course	**1**	0.1 mg/kg Q12h
	2	0.075 mg/kg Q12h
	3	0.05 mg/kg Q12h
	May repeat weekly if necessary	
Long Course	**1**	0.1 mg/kg Q12h
	2	0.1 mg/kg Q12h
	If no response after 48-72h, 5top. If respond, Continue	
	3	0.075 mg/kg Q12h
	4	0.075 mg/kg Q12h
	5	0.05 mg/kg Q12h
	6	0.05 mg/kg Q12h
	7	0.05 mg/kg Q12h
	8	Off
	9	0.05 mg/kg Q12h
	10	End

Diamox® or Cidamex®

Acetazolamide 250 mg tab.

Diuretic: 5 mg/kg/dose Q24h **IV** or **PO**.

Anticonvulsant: 4-16 mg/kg/day **PO** divided every 6-8h (not to exceed 30 mg/kg/day or 1 g/day).

To alkalinize urine: 5 mg/kg/dose **PO** 2-3 times over 24h.

To ↓ CSF production: S mg/kg/dose **IV** or **PO** Q6h increased by 2S mg/kg/day to a maximum of 100 mg/kg/day. **Lasix®** may be used in combination.

دياموكس (٢٥٠ مجم قرص / ١٠ سم) ← ...بالفم بعد الرضاعة / ٦ ساعات

USES

Mild diuretic.

Anticonvulsant in refractory neonatal seizures (retards abnormal discharge from CNS neurons).

Decrease CSF production in PHH.

Renal tubular acidosis.

MONITOR

Serum electrolytes (contraindicated in $\downarrow K^+$ and $\downarrow Na^+$).

Plasma pH and Chloride.

ADVERSE EFFECTS / PRECAUTIONS

GI irritation.

Anorexia.

Transient hypokalemia.

Hyperchloremic metabolic acidosis.

Growth retardation.

Bone marrow suppression, thrombocytopenia, hemolytic anemia, pancytopenia and leucopenia.

Drowsiness, paresthesias.

Diflucan®

Fluconazole 100 mg / 50 mL

1

Systemic infections including meningitis	**LD** 12 mg/kg/dose **MD** 6 mg/kg/dose **IVI over 30 min or PO**
2 mg/mL	**ديفلوكان** (١٠٠مجم / ٥٠سم) ← (...سم+...سم ج ٥٪) وريد على مدى ساعة الأن ثم (... سم + ... سم ج ٥٪) وريد على مدى ساعة / ... ساعة
Prophylactic in VLBW in NICU with high rates of invasive fungal disease	3 mg/kg/dose twice weekly. **IVI over 30 min**
2 mg/mL	**ديفلوكان** (١٠٠مجم / ٥٠ سم) ← (...سم+...سم ج ٥٪) وريد على مدى ساعة مرتين أسبوعيا
Thrush	**LD**6 mg/kg on day 1 **MD** 3 mg/kg/dose/24h **PO**
1 mg/mL	**ديفلوكان** (٥ مجم / سم) **شراب** ← ... سم بالفم في اليوم الاول ثم ... سم بالفم / ٢٤ ساعة

PMA (wk)	Postnatal (d)	Interval (h)
≤ 29	0-14	72
	>14	48
30-36	0-14	48
	>14	24
37-44	0-7	48
	>7	24
≥ 45	All	24

USES

Systemic infections, meningitis caused by Candida species

MONITOR

Renal function, AST, ALT, CBC for eosinophilia.

Diflucan®

Fluconazole 100 mg / 50 mL

ADVERSE EFFECTS / PRECAUTIONS

Reversible ↑ AST, ALT (in 12%).

Interfere with metabolism of barbiturates and phenytoin, aminophylline, caffeine, theophylline and midazolam.

Adjust dosage for impaired renal function.

Contraindicated with *cisapride* (ppt life-threatening arrhythmias).

RENAL IMPAIRMENT

Cr Cl <50 mL/min/1.73m^2: usual initial dose then halve subsequent doses.

INTERACTIONS WITH

Analgesics: fluconazole possibly ↑ plasma concentration of fentanyl.

Antibacterials: metabolism of fluconazole accelerated by rifampicin (↓ plasma concentration).

Antiepileptics: fluconazole ↑ plasma concentration of phenytoin (consider ↓ dose of phenytoin); voriconazole ↑ plasma concentration of phenytoin, also phenytoin ↓ plasma concentrationof voriconazole (↑ dose of voriconazole and also monitor for phenytoin toxicity).

Antifungals: triazoles possibly antagonise effects of amphotericin.

Anxiolytics and Hypnotics: fluconazole ↑ plasma concentration of midazolam (risk of prolonged sedation).

Barbiturates: plasma concentration of voriconazole possibly ↓ by phenobarbital - avoid concomitant use.

Theophylline:↑ plasma concentration of theophylline.

Digibind®

Digoxin immune Fab (38 mg per vial)

Dose (number of vials) = $\frac{\text{serum digoxin concentration} \times \text{wt in kg}}{100}$

Each vial contains 38 mg **and will bind** 0.5 mg digoxin.

Once administered, digoxin serum concentrations can no longer be determined accurately.

USES

Life threatening digoxin toxicity.

ADMINISTRATION

The contents in each vial to be used should be dissolved with 4 mL of Sterile Water for Injection, by gentle mixing, to give a clear, colorless, approximately isosmotic solution with a protein concentration of 9.5 mg/mL.

Reconstituted product should be used promptly.

If it is not used immediately, it may be stored under refrigeration at 2-8°C for up to 4 hours.

Digibind® is administered by IVI over 30 minutes.
If cardiac arrest is imminent, it can be given as a bolus injection.

STORAGE

Refrigerate at 2° to 8°C.

Unreconstituted vials can be stored at up to 30°C for a total of 30 days.

Dobutamine

Dobuject® 250 mg / 5 mL

Dose: 2-25 µg/kg/min **IVI.**
Begin low and titrate by monitoring effect.

Volume of drug needed per day= $\frac{\text{Dose X 1.44 X wt X 5}}{250}$ (if using **Dobuject®**) or = $\frac{\text{Dose X 1.44 X wt X 20}}{250}$ (if using **Dobutrex®**) is added to 24 mL D_5W, $D_{10}W$, N5 or LR, given as **IVI** at a rate of 1 mL/h.

دوبيوجيكت (٢٥٠ مجم / ٥ سم) ← ... شرطة بسرنجة انسولين ١٠٠ + ٢٤ سم ج
٥٪ وريد على مدى٢٤ ساعة بمعدل ١ سم / الساعة

Brands include: Dobutrex® 250mg/20mL.

10 µg/kg/min dose is equal to 0.29 mL/kg/24h of **Dobuject®** 250 mg / 5 mL
10 µg/kg/min dose is equal to 1.15 mL/kg/24h of **Dobutrex®** 250 mg / 20 mL

Incompatible with $NaHCO_3$, Insulin and furosemide .

Incompatible with $NaHCO_3$, Insulin and furosemide .

Dilute to a concentration of 0.5–1 mg/mL (max. 5 mg/mL if fluid restricted) with D_5W or NS; infuse higher concentration through CVC only.

USES

Hypoperfusion and hypotension, especially if related to myocardial dysfunction.

MONITOR

Heart rate and Blood pressure (Peak effect in 10 min).
IV sites for extravasation.

ADVERSE EFFECTS / PRECAUTIONS

Hypotension if patient is hypovolemic. Volume loading is recommended before starting dobutamine therapy.
Tachycardia at high dosage
Arrhythmias, hypertension and cutaneous vasodilatation.
Increases myocardial oxygen consumption.
Tissue ischemia occurs with infiltration.

Dopamine

Intropin® 200 mg / 5 mL

Dose: 2-20 µg/kg/min **IVI**.
Begin low and titrate by monitoring effect.

Volume of drug needed per day = $\frac{\text{Dose X 1.44 X wt X 5}}{200}$ then added to 24 mL D_5W and given as **IVI** at a rate of 1 mL/h.

دوبامين (٢٠٠ مجم / ٥ سم) ← ... شرطة بسرنجة انسولين ١٠٠ + ٢٤ سم ج ٥٪
وريد على مدى٢٤ ساعة بمعدل ١ سم / الساعة

5 µg/kg/min is equal to 0.18 mL/kg/24h of **Intropin®** 200 mg/5 mL

Incompatible with $NaHCO_3$ and Insulin
Dilute to a max. concentration of 3.2 mg/mL with Glucose 5% or Sodium Chloride 0.9%. Infuse higher concentrations through CVC using a syringe pump to avoid extravasation and fluid overload.

USES

Hypotension.

MONITOR

Heart rate
Blood pressure
Urine output and peripheral perfusion.
IV sites for blanching and infiltration.

ADVERSE EFFECTS / PRECAUTIONS

Tachycardia and arrhythmias.
May increase pulmonary artery pressure.
Reversible suppression of prolactin and thyrotropin secretion.
Tissue sloughing may occur with IV infiltration.

Sympathomimetic Amines

Drug	Usual dose (μg/kg/min)	Effect
Dopamine	1-S	↑ UOP, ↑ HR (slightly), ↑ Contractility
	6-10	↑ HR, ↑ Contractility, ↑ BP
	11-20	↑ HR, ↑ Contractility, ↑ SVR, ↑ BP
Dobutamine	1-20	↑ HR (slightly), ↑ Contractility, ↓ SVR
Epinephrine	0.0S-0.S0	↑ HR, ↑ Contractility, ↑ SVR, ↑ BP
Isoproterenol	0.0S-1.00	↑ HR, ↑ Contractility, ↓ SVR, ↓ PVR

These infusions may be mixed in IV solutions containing dextrose and/or saline.

Calculation of a convenient preparation of IVI:

$$6 \text{ X} \frac{\textbf{Desired dose μg/kg/min}}{\textbf{Desired rate mL/hr}} \text{ X weight (kg)} = \frac{\textbf{mg drug}}{\textbf{100 mL fluid}}$$

SVR, systemic vascular resistance; **PVR,** pulmonary vascular resistance

Dormicum® or Midathetic®

Midazolam 15 mg / 3 mL

SEDATIVE DOSE:

IV (or IM): 0.05-0.15 mg/kg over at least 5 minutes, repeat as required, usually Q2-4h.

IVI: 0.01-0.06 mg/kg/h (↑ after several days of therapy due to tolerance or ↑ clearance).

Intranasal: 0.2-0.3 mg/kg/dose using injectable form.

Sublingual: 0.2 mg/kg/dose using injectable form mixed with a small amount of flavored syrup.

ANTICONVULSANT DOSE:

LD: 0.15 mg/kg **IV** over at least 5 min, followed by

Maintenance IVI: 0.06-0.4 mg/kg/h.

دورميكم (١٥ مجم / ٣ سم) (٢٠ شرطة بسرنجة انسولين ١٠٠ مركز وتكمل الى ١٠٠ شرطة ج ٥٪) ← ... شرطة بسرنجة انسولين ١٠٠ وريد على مدى ٥ دقائق / ٢-٤ ساعات

Infusion solution concentration1 mg/mL.

Incompatible with Sodium bicarbonate.

USES

Sedative, hypnotic.

Anesthesia induction.

Treatment of refractory seizures.

MONITOR

Respiratory status and Blood pressure

Hepatic function

Signs of withdrawal after prolonged therapy.

ADVERSE EFFECTS

Respiratory depression and hypotension, especially when used concurrently with narcotics.

Burning sensation with nasal administration.

Seizure-like myoclonus (8% of PT infants).

Eltroxen®

Levothyroxine $T_4$50 µg tab.

Initial Oral Dose: 10-14 µg/kg/dose **PO** Q24h (37.5-50 µg/ dose for an average term infant). Dosage is adjusted in 12.5 µg increments.

Initial IV Dose: 5-8 µg/kg/dose Q24h.

التروكسين (قرص ٥٠ ميكرو جرام يذاب في ٥ سمماء مقطر) ← ... سم بالفم كل ٢٤ ساعة

USES

Hypothyroidism

MONITOR

Serum T_4 level after 2 weeks of treatment (10-16 µg/dL in the first year of life). T_3 level should be normal (70-220 ng/dL) and TSH should have declined from initial value.

After 12 weeks of treatment, serum TSH should be in the normal range < 15 mU/L.

Measure T_4 and TSH at 2 weeks of age, then every 1-2 months or 2 weeks after any change in dosage.

Signs of hypothyroidism: lethargy, poor feeding, prolonged neonatal jaundice, constipation, intermittent cyanosis.

Signs of thyrotoxicosis: hyperactivity, altered sleep pattern, tachycardia, tachypnea, fever, exophthalmos and goiter.

Growth, development and bone-age advancement.

ADVERSE EFFECTS

Prolonged overtreatment can produce premature craniosynostosis and acceleration of bone age.

Epanutin® or Ipanten®

Phenytoin IV 250 mg / 5 mL

Phenytoin PO 30 mg / 5 mL

LD: 15-20 mg/kg **IVI** over at least 30 min.

MD: 4-8 mg/kg Q24h **IV** slow push or PO.

Up to: 8 mg/kg/dose Q8-12h after 1 week of age.

Flush **IV** with saline before and after administration.

Avoid use in central lines; may precipitate. **Not to be given IM.**

إيبانوتين (٢٥٠ مجم / ٥ سم) (١ سم + ٩ سم م م) ← ... سم بالوريد على مدى نصف ساعة ثم ... سم بالوريد ببطء /١٢ ساعة

إيبانتن شراب (٣٠ مجم / ٥ سم) ← ... سم بالفم /١٢ ساعة

Maximum rate of infusion 0.5 mg/kg/min

Infusion solution concentration 5 mg / mL

Incompatible with D_5W, $D_{10}W$.

USES

Anticonvulsant for seizures refractory to phenobarbital.

HEPATIC IMPAIRMENT

Reduce dose.

MONITOR

Bradycardia, arrhythmias and hypotension during infusion.

IV site for extravasation.

Serum therapeutic level is 6-15 µg/mL in the 1st weeks, then 10-20 µg/mL due to change in protein binding.

Bilirubin displaces phenytoin from protein-binding sites, resulting in increased free drug.

ADVERSE EFFECTS

Extravasation → inflammation and necrosis.

Hypersensitivity reactions.

High serum concentration is associated with seizures.

With long term therapy: Arrhythmias, hypotension, gingivitis, nystagmus, rickets, hyperglycemia, and hypoinsulinemia.

Epoetin alpha

Eprex® 2000 iu/ 0.5 mL

Dose: 200-400 iu/kg/dose, 3-5 times per week for 2 to 6 weeks. Total dose per week is 600-1400 iu/kg

Short course: 300 iu/kg/dose daily for 10 days.

Administer **SC** or **IVI** (over ≥ 4h or continuously in TPN).

Supplemental iron, adequate proteins and Vit-E should be initiated concurrently.

ايبركس(٢٠٠٠ وحدة / ٠.٥ سم) ← شرطة تحت الجلد يوم بعد يوم...

For IVI: Dilute in 2 mL of solutions containing at least 0.05% protein and infuse over 4 hours. Stable for 24h.

USE

Stimulate erythropoiesis and ↓ the need for PRBCs transfusion in high risk preterms.
The most likely to benefit are ELBW < 800 gm with phlebotomy losses > 30 ml/kg.

MONITOR

Weekly CBC to check for neutropenia and RBC response.

ADVERSE EFFECTS / PRECAUTIONS

Neutropenia (rare, resolves with discontinuation of the drug).

STORAGE

Store between 2-8° c.
Don't shake.
Undiluted epoetin is stable plastic syringes for 2 weeks.

Erythromycin

Erythrocin® 200 mg / 5 mL

Dose for treatment and prophylaxis of Pertussis and for C. trachomatis Conjunctivitis and Pneumonitis: 12.5 mg/kg/dose **PO** Q6h for 14 days.

Dose for other infectionsand prophylaxis: 10 mg/kg/dose **PO** Q6h.

Feeding intolerance due to dysmotility: 10 mg/kg/dose **PO**Q6h for 2 days followed by 4 mg/kg/dose **PO** Q6h for 5 days.

اريثروسين شراب (٢٠٠مجم / ٥سم) ← ... بالفم / ٦ ساعات

USES

Infections by Chlamydia, Mycoplasma, and Ureaplasma.
Treatment and prophylaxis for Bordetella pertussis.
Substitute for penicillin in allergic intolerance.
Prokinetic agent (motilin-receptor agonist) in feeding intolerance.

MONITOR

Diarrhea and abdominal discomfort.
CBC for eosinophilia.

ADVERSE EFFECTS / PRECAUTIONS

Loose stools.
Intrahepatic cholestasis.
x10↑ risk of hypertrophic Pyloric stenosis in neonates under 2 wks of age.
↓Plasma clearance of midazolam (**Dormicum®**) by 50%
↑Serum concentration of digoxin, midazolam, theophylline and carbamazepine.

Fentanyl-Janssen® (50 µg /mL)

Sedation and Analgesia: 0.5-4 µg/kg/dose **IV** slow push, repeat as required, usually Q2-4h.

Infusion rate: 1-5 µg/kg/h (quickly develop tolerance).

Anesthesia: 5-50 µg/kg/dose.

فنتانيل (٥٠ ميكروجرام / سم) (½سم + ١٢ سم) ← ...سم وريد ببطء / ٤ ساعات بأمر الطبيب

Infusion solution concentration 2 µg / mL.
For a dose of 2 µg/kg, give 1 mL/kg
Stable for 24h refrigerated after dilution.
Protect from light.

USES

Analgesia, sedation.
Anesthesia.

MONITOR

Respiratory and cardiovascular status.
Abdominal distension, loss of bowel sounds
Muscle rigidity.

ADVERSE EFFECTS

Respiratory depression with anesthetic dose > 5 µg/kg.
Chest wall rigidity with laryngospasm, reversible with *naloxone*.
Urinary retention with continuous infusion.
Tolerance to analgesic doses.
Withdrawal symptoms after IVI for 5 days or longer.

Ferose® or Hydroferrin®

Iron Polymaltose Complex

For growing PT infants: 2 mg/kg/day (max. 15 mg/day), begin after 2 weeks of age.

< 1.000 kg birth weight: 4 mg/kg/day.

If receiving erythropoietin: 6 mg/kg/day.

In 1 or 2 doses, diluted in formula.

فروز شراب(٥٠ مجم / ٥ سم) ← ... سم مع الرضاعة / ٢٤ ساعة

هيدروفيرين نقط (٥٠ مجم / سم) ← ... نقطة مع الرضاعة / ٢٤ ساعة

Each **Hydroferrin®** drop contains 1.67 mg elemental iron.

USES

Iron supplementation for prevention and treatment of anemia.

MONITOR

Hemoglobin and reticulocyte counts during therapy

Observe stools.

Check for constipation.

ADVERSE EFFECTS / PRECAUTIONS

In growing PT infants, iron supplementation should not be started until adequate vitamin E is supplied in diet: otherwise iron may ↑ hemolysis.

Nausea, constipation, black stools, erosion of gastric mucosa.

Lethargy.

Hypotension.

Flagyl®

Metronidazole 500 mg / 100 mL

LD:15 mg/kg **PO** or **IVI** over 1h

MD:7.5 mg/kg/dose **PO** or **IVI** over 1h

فلاجيل (٥٠٠ مجم / ١٠٠ سم) ← ... سم + ... سم ج ٥٪ وريد على مدى ساعة ثم بعد ... ساعة ← ... سم +... سم ج ٥٪ وريد / ... ساعة على مدى ساعة

فلاجيل شراب (١٢٥مجم / ٥ سم) ← ... سم بالفم / ... ساعة

Na content is 14 mEq per 100 mL.

Infusion solution concentration 5 mg/ml.

PMA (wk)	Postnatal (d)	Interval (h)
≤ 29	0-28	48
	>28	24
30-36	0-14	24
	>14	12
37-44	0-7	24
	>7	12
≥ 45	All	8

HEPATIC IMPAIRMENT

Reduce total daily dose to one third and give once daily

Use with caution in hepatic encephalopathy

USES

Meningitis, ventriculitis and endocarditis caused by Bacteroides fragilis and other anaerobes resistant to penicillin.

Serious intra-abdominal infections and C. difficile colitis.

T. vaginalis infections.

ADVERSE EFFECTS / PRECAUTIONS

Carcinogenic?!!

Seizures, sensory polyneuropathy.

Brownish discoloration of urine.

Folic Acid

Folicap® 500 µg tab.

Dose: 15 µg/kg/dose or up to maximum 50 µg/day **PO, deep IM, IV or SC.**

فوليك أسيد (٥٠٠ ميكروجرام /١٠ سم) ← ١ سم بالفم /٢٤ ساعة

USES

Megaloblastic and macrocytic anemia as a result of folate deficiency.

MONITOR

Hematocrit

Hemoglobin

Reticulocyte

ADVERSE EFFECTS / PRECAUTIONS

May mask hematological defects of Vit B_{12} deficiency, but it will not prevent the progression of irreversible neurologic abnormalities.

GI upset

Slight flushing

May decrease phenytoin serum concentration.

Contraindicated in pernicious, aplastic and normocytic anemia

Fortum®

Ceftazidime 1 g / 40 mL

Dose: 30 mg/kg/dose **IVI** over 30 min, or **IM**.

فورتام (١ جم / ٤٠ سم م م) ← ... سموريد على مدى نصف ساعة / ... ساعات

فورتام (٥٠٠ مجم / ٢ سم) ← ... سم عضل / ... ساعات

Infusion solution concentration 25mg/ml.
Also available as 250 mg and 1 g vials

PMA weeks	Postnatal days	Interval hours
≤ 29	0-28	12
	>28	8
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	6

USES

Neonatal meningitis and sepsis by G-ve organisms (e.g. E.coli, H.influenza, Neisseria, Klebsiella, and Proteus species), esp. Pseudomonas aeruginosa.
Synergistic with aminoglycosides

ADVERSE EFFECTS (UNCOMMON)

Rash, Eosinophilia
Diarrhea, ↑ Hepatic ALT, AST.
Positive Coombs' test.

Fungizone®

Amphotericin-B 50 mg / 10 mL

1

Dose: 0.5-1 mg/kg **IVI** over 2-6h Q24h[Neofax 2009]

Dose: [Gomella 2009]

- **Initial dose:** 0.25-0.5mg/kg **IVI** over 4-6h.
- **MD:** 0.5-1 mg/kg **IVI** over 2-6h Q24-48h for 2-6 wks or longer.

فنجيزون (٥٠ مجم / ١٠ سم) (½ سم + ٢٤.٥ سم ج٥٪) ← ... سم وريد على مدي ساعتين بمعدل ... سم / الساعة كل ٢٤ ساعة

Infusion solution concentration 0.1 mg/mL.

Don't mix with NS.

Protect from light.

USES

Systemic fungal infections.

Severe superficial mycoses.

MONITOR

CBC, liver function every week.

Serum creatinine, BUN, Electrolytes and UOP.

IV sites for irritation.

ADVERSE EFFECTS / PRECAUTIONS

↓ RBF and GFR by 20-60%.

↑ K^+ and Mg loss due to tubular injury, ↓ reabsorption of Na. Na intake > 4 mEq/kg/day may prevent nephrotoxicity.

Anemia, thrombocytopenia.

Consider analgesia before infusion.

Nausea, vomiting

Fever, chills

Discontinue if BUN > 40 mg/dL, serum creatinine is > 3 mg/dL, or liver function tests are abnormal.

If creatinine increases > 0.4 mg/dL during therapy, hold dose for 2-5 days.

Fungizone®

Amphotericin-B 50 mg / 10 mL

INTERACTIONS WITH

Antibacterials: ↑ risk of nephrotoxicity when given with aminoglycosides; possible ↑ risk of nephrotoxicity when amphotericin given with vancomycin.

Cardiac Glycosides: hypokalemia caused by amphotericin ↑ cardiac toxicity with cardiac glycosides.

Corticosteroids: ↑ risk of hypokalemia when amphotericin given with corticosteroids - avoid concomitant use unless needed to control reactions.

Diuretics: ↑ risk of hypokalemia when given with loop diuretics or thiazides.

Garamycin®

Gentamicin 40 mg / 4 mL

Dose: as chart **IVI** over 30 minutes.

جاراميسين (٤٠ مجم / ٤ سم) (١ سم + ٤ سم ج ٥٪) ← ... سم وريد على مدى نصف ساعة / ٢٤ ساعة

Infusion solution concentration 2 mg/mL.

PMA (wks)	Postnatal (d)	Dose (mg/kg)	Interval (h)
≤ 29 *	0-7	5	48
	8-28	4	36
	≥ 29	4	24
30-34	0-7	4.5	36
	≥ 8	4	24
≥ 35	All	4	24

*** or significant asphyxia, PDA or ttt with indomethacin.**

USES

Aerobic G-ve Bacilli(e.g. Pseudomonas, Klebsiella, E.coli). Usually used in ombination with a β-lactam antibiotic.

ADVERSE EFFECTS

Transient and reversible renal tubular dysfunction (↑ urinary loss of Na, Ca, and Mg).

Vestibular and auditory ototoxicity.

Increased neuromuscular blockade when used with pancuronium and in patients with hypermagnesemia.

SERUM LEVEL

Obtain peak concentration 30 minutes after end of infusion and trough level just prior to the next dose, refrigerate blood sample soon

Peak: 5-12 µg/mL

Trough:0.5-1µg/mL

Gastrazole® Omeprazole 20 mg cap.
Losec® Omeprazole 40 mg vial

PO: 0.S-1.S mg/kg/dose Q24h

جاسترازول (٢٠ مجم / ١٠ سم صوديوم بيكربونات ٨.٤٪) ← ... سم بالفم / ٢٤ ساعة

Solution concentration 2 mg/mL.

لوسيك (٤٠ مجم / ١٠ سم) (١ سم + ٩سم) ← ... شرطة بسرنجة أنسولين ١٠٠ وريد /٢٤ ساعة

Infusion solution concentration 4 mg/mL.

USES

Short-term (< 8 weeks) treatment of documented reflux esophagitis or duodenal ulcer refractory to conventional therapy. Onset of action within 1h with duration of action of 72h.

MONITOR

Symptomatic improvement within 3 days.

Intra-esophageal pH monitor to assess efficacy (pH > 4.0).

ALT, AST if duration of therapy > 8 wks.

ADVERSE EFFECTS

Hypergastrinemia.

Mild ALT, AST elevation.

Geveskon®

Na Alginate / Na Bicarbonate

Dose: 1-2 mL after feeding **PO** Q8h.

جيفيسكون شراب ← ١-٢ سم بالفم / ٨ ساعات بعد الرضاعة

Each 5 mL contains 5 g sodium alginate + 2.5 gm $NaHCO_3$

USES

$NaHCO_3$ may, by acting as an antacid, control some of the symptoms of gastro-oesophageal reflux.

Alginate reacts with gastric acid to form a viscous gel or 'raft' that then floats to the top of the stomach, acting as a mechanical barrier to oesophageal reflux.

ADVERSE EFFECTS / PRECAUTIONS

Metabolic alkalosis

Hypernatremia

Gaviscon® Infant Sachets

Powder for oral suspension

Each dose of Gaviscon® infant Sachets contains 225 mg of sodium alginate and 87.5 mg magnesium alginate.

Prepare immediately before use as directed below:

For breast-fed infants:

< 4.5 kg, one dose and 2 doses if > 4.5 kg

Add 5 mL of cooled boiled water to the powder in a glass. Mix to a smoothpaste and add another 10 mL water and mix.

Give after each feed using a spoon or feeding bottle.

For bottle-fed infants:

< 4.5 kg, one dose to be mixed into not less than 115 mL of each feed in thebottle and shaken well.

> 4.5 kg, 2 doses to be mized into not less than 225 mL of each feed in thebottle and shaken well.

Young children:

2 doses, prepared as breast-fed infsnts. To be taken after each meal.

Heparin 5000 i.u. / mL

To maintain patency of peripheral and central vascular catheters: 0.5-1 units/mL of Fluids to be infused.

Treatment of Thrombosis: 75 units/kg **bolus**, followed by 28 units/kg/h **IVI**

- Measure aPTT 4h after initiating therapy
- Adjust dose to achieve aPTT of 60-85 seconds (corresponds to an anti-factor Xa level of 0.3-0.7).
- Limit treatment to 10-14 days.

هيبارين (٥٠٠٠ وحدة / سم) (١ سم + ٩ سم) ← ٥ شرطات بسرنجة انسولين ١٠٠ لكل ٥٠ سم محاليل

Compatible with D_5W, $D_{10}W$ and N5.

USES

To maintain patency of peripheral and central vascular catheters.

Treatment of thrombosis.

MONITOR

Platelet count every 2-3 days.

aPTT (achieve aPTT of 60-85 seconds).

Signs of bleeding and thrombosis.

ADVERSE EFFECTS / PRECAUTIONS

Heparin-induced thrombocytopenia (HIT) 1%.

Osteoporosis (with long-term use)

Contraindicated in infants with evidence of intracranial or GI bleeding or thrombocytopenia (<50.000/mm^3).

Hydralazine

Slowapresoline® 50 mg tab
Apresoline® 20 mg vial

IV: begin with 0.1 - 0.5 mg/kg/dose Q6-8h. Increase gradually as required to a maximum of 2 mg/kg/dose Q6h.

PO: 0.25-1 mg/kg/dose Q6-8h, or approximately twice the required IV dose. Administer with food to enhance absorption.

هيدرالازين (٢٠ مجم / ٢٠ سم م م) ← ... سم وريد / ٦ - ٨ ساعات

Infusion solution concentration 1 mg/mL.

To prepare an oral suspension, crush a 50 mg tablet in 4 mL of 5% mannitol then add 46 mL of sterile water to make a final concentration of 1 mg/mL. Stable for 7 days refrigerated.

هيدرالازين (٥٠ مجم قرص + ٤ سم مانيتول ٥٪ + ٤٦ سم ماء مقطر) ← ... سم بالفم مع الرضاعة / ٦ - ٨ ساعات

Solution concentration 1 mg/mL.

NOTE: use with BB ↑ the anti-hypertensive effect and ↓ the magnitude of the reflex tachycardia. This is expected to reduce hydralazine requirements to < 0.15 mg/kg/dose.

USES

Mild to moderate hypertension

Afterload reduction in patients with CHF

MONITOR

Heart rate and Blood pressure.

Guaiac stools

Periodic CBC for long term use.

ADVERSE EFFECTS / PRECAUTIONS

Diarrhea, emesis.

Temporary agranulocytosis.

Tachycardia, postural hypotension, headache, nausea, and a lupus-like syndrome (10-20% of adults).

GI irritation, bleeding, drug fever, rash, conjunctivitis, and bone marrow suppression (in adults, uncommon).

Intravenous Immune Globulin

GAMMARAAS®5% (Human)

Dose: 500-750 mg/kg/dose (over 2-6h)

Dose In Neonatal Alloimmune Thrombocytopenia:
400 mg – 1 g/kg

Regimen	0.01 – 0.02 mL/kg/min over 30 minutes then the rest of the amount over 1½ h.
	Rate/h in 1st 30 min = 0.02 X Wt (Kg) X 60

... سم **امينوجلوبلين (١ جم / ٢٠ سم)** على مدى ساعتين وريد بمعدل ... سم /
الساعةفي أول نصف ساعة ثم بمعدل ... سم / الساعة خلال ساعة ونصف

Available as 1g in 20 mL – 2.5 g in 50 mL – 5 g in 100 mL

USES

Adjuvant treatment of fulminant neonatal sepsis, hemolytic jaundice, neonatal alloimmune thrombocytopenia.

MONITOR

HR and BP.

IV sites for phlebitis.

ADVERSE EFFECTS / PRECAUTIONS

Hypoglycemia (Rare)

Transient tachycardia and hypotension

Indometacin

Liometacen® 50 mg vial

Closure of PDA: as table **IVI** over at least 30 minutes. Usually 3 doses per course, maximum 2 courses.

Give at 12-24h intervals with close monitor to UOP, if anuria or severe oliguria, delay subsequent dose.

Prevention of IVH: 0.1 mg/kg Q24h, 3 doses start at 6-12h of age.

اندوميثاسين (٥٠ مجم / ١٠٠ سم) ← ... على مدى نصف ساعة / ٢٤ ساعة

Stable for 12d when stored at room temperature or refrigerated.

Compatible with sterile water, $D_{2.5}W$, D_5W and NS.

Incompatible with $D_{7.5}W$, $D_{10}W$.

Age at 1st dose	1st	2nd	3rd
< 48 h	0.2 mg/kg	0.1	0.1
2 – 7 d	0.2	0.2	0.2
> 7 d	0.2	0.2S	0.25

USES

Closure of PDA.

Prevention of IVH.

MONITOR

Urine output, Serum electrolytes, creatinine and BUN.

Blood glucose

Assess murmur and pulse pressure

GI bleeding (guaiacing stools and gastric aspirate)

Platelet count, Prolonged bleeding from puncture sites.

Indometacin

Liometacen® 50 mg vial

ADVERSE EFFECTS

If oliguria occurs, observe for hyponatremia and hypokalemia and consider prolonging the dosing interval of renally excreted drugs. Consider withholding feedings.

Hypoglycemia (avoided by ↑ GIR by 2 mg/kg/min)

Contraindicated in active bleeding, significant thrombocytopenia or coagulation defects, NEC and significantly impaired renal function.

Avoid rapid infusion (<5min).

GI perforation if used concurrently with steroids.

INTERACTIONS WITH

ACE Inhibitors: ↑ risk of renal impairment, also hypotensive effect antagonized.

Antibacterials: indometacin possibly ↑ plasma concentration of amikacin and gentamicin in neonates; possible ↑ risk of convulsions when given with quinolones.

Antiepileptics: NSAIDs possibly ↑ effects of phenytoin.

Beta-blockers and Calcium-channel Blockers: NSAIDs antagonise hypotensive effect.

Cardiac Glycosides: NSAIDs possibly ↑ plasma concentration, possible exacerbation of heart failure and ↓ of renal function.

Corticosteroids: ↑ risk of GI bleeding and ulceration.

Diazoxide: NSAIDs antagonise hypotensive effect.

Diuretics: risk of nephrotoxicity of NSAIDs ↑ by diuretics, also antagonism of diuretic effect; indometacin antagonises effects of diuretics; ↑ risk of hyperkalemia when given with K^+-sparing diuretics and aldosterone antagonists.

Pentoxifylline: possible ↑ risk of bleeding.

NSAIDs antagonize hypotensive effect of **hydralazine.**

Inderal®or Mayestrotense®

Propranolol 1 mg / mL

Starting IV Dose: 0.01 mg/kg Q6h over 10 min. Increase as needed to a **maximum** of 0.15 mg/kg/dose Q6h.

Starting Oral Dose: 0.25 mg/kg/dose Q6h. Increase as needed to **amaximum** of 3.S mg/kg/dose Q6h.

اندرال (١ مجم / ١ سم) (١ سم + ٩ سم) ← ...وريد على مدى ١٠ دقائق / ٦ ساعات

اندرال أقراص (١٠ مجم / ١٠ سم ماء مقطر) ← ...بالفم /٦ ساعات

IV solution concentration 0.1 mg/mL.

USE

Tachyarrhythmias and hypertension.
SVT especially if associated with Wolff-Parkinson-White syndrome.
Palliation of TOF and HOCM.
Adjuvant treatment of neonatal thyrotoxicosis.

MONITOR

Continuous ECG monitor.
Systemic blood pressure
Blood glucose during initiation of treatment and after dosage changes.
Assess for increased airway resistance.

ADVERSE EFFECTS / PRECAUTIONS

Hypotension, bradycardia, bronchospasm and hypoglycemia.
Contraindicated in patients with reactive airway disease or diminished myocardial contractility.
A **withdrawal syndrome** (nervousness, tachycardia, sweating, hypertension) with sudden cessation of the drug.

INTERACTIONS

Cardiac Glycosides: ↑ risk of AV block and bradycardia.
Hypotensive effect of beta-blockers antagonised by **corticosteroids.**
Diazoxide: enhances hypotensive effect.
Diuretics: enhances hypotensive effect.
Thyroid Hormones: metabolism of propranolol is accelerated.
Hydralazine: enhance hypotensive effect.

Human Insulin, Short-acting

Actrapid® 100 Units / mL

1

Continuous IVI: 0.01-0.1 unit/kg/h

Intermittent SC dose: 0.1-0.2 unit/kg Q6-12h.

For hyperkalemia: begin with a bolus of insulin (0.05 u/kg) with 2 mL/kg of $D_{10}W$ followed by **IVI** of $D_{10}W$ at 2-4 mL/kg/h and regular insulin (0.1 u/mL) at 1 mL/kg/h. The two solutions may be prepared individually to allow adjustments in infusion rate in response to hyper- or hypoglycemia. MNC2008

اكترابيد(انسولين ماني) (٥٠ شرطات بسرنجة ١٠٠ + ٥٠ سم ج ٥ ٪) ويتم التخلص من ٢٥ سم من خلال جهاز الوريد قبل البدأ ثم يعطى على مدى ٢٤ ساعة بمعدل ... سم / الساعة

اكترابيد (انسولين ماني) (١٠٠ شرطات بسرنجة ١٠٠ وتكمل حتى ١٠٠ شرطة ماء مقطر) ثم (١٠٠ شرطة + ٩ سم ماء مقطر) ← ... شرطة بسرنجة أنسولين ١٠٠ تحت الجلد كل ... ساعة

For IVI: Mix 1S units in 1S0 mL NS or D_5W (final concentration of 0.1 u/mL; maximum concentration is 1 u/mL). Flush tubing with 2S mL of insulin solution before beginning the infusion.

Gomella 2009: to ↓ absorption of insulin to IV solution bag or tubing, flush the line with solution, wait 30 min then flush the line again with solution prior to initiation. The actual amount of insulin being administrated could be less than the apparent amount. So, adjustment of the insulin rate should be based on the effect and not solely on the apparent insulin dose.

For SC administration: Dilute to 0.S - 1 U/mL DW or NS.

Human Insulin, Short-acting

Actrapid® 100 Units / mL

2

USES

Hyperglycemic infants with persistent glucose intolerance:

- Glucose > 250 mg/dL despite ↓ GIR by 2 mg/kg/min Q4-6h.
- Prolonged restriction of IV glucose with ↓ required calories.

Routine use in VLBW to promote growth in not warranted.
Adjuvant therapy for hyperkalemia.

MONITOR

Blood glucose concentration Q15-30 minutes after starting infusion and after changes in infusion rate.

ADVERSE EFFECTS / PRECAUTIONS

Hypoglycemia.
Insulin resistance.
Euglycemic hyperinsulinemia may cause metabolic acidosis.
↓ Glucose level gradually to avoid rapid fluid shifts.

Kayexalate®

Sodium Polystyrene Sulfonate

DOSE: 1 g/kg/dose **PO** Q6h via NGT or **PR** Q2-6h

كايكسالات حقنة شرجية كل ٦ ساعات

For PO use: Dilute in 3-4 mL fluid per g of resin; 10% sorbitol, water, or syrup may be used as diluent.

For PR use: Dilute in water or 25% sorbitol at a concentration of 0.3-0.5 g/mL; retain enema for at least 30-60 min or several hours if possible

The Na^+ content is ~100 mg/g (4.1 mEq/g) of the drug

Also available as **Sorbisterit®** (calcium polystyrene sulfonate)

USES

Treatment of hyperkalemia

ADVERSE EFFECTS

Hypokalemia

Sodium retension

Hypocalcemia and hypomagnesemia

Fecal impaction

Klacid®

Clarithromycin 250 mg / 5 mL

Dose: 7.5 mg/kg/dose **PO** Q12h

كلاسيد شراب (٢٥٠ مجم / ٥ سم) ← ... سم / ١٢ ساعة

Solution concentration 50 mg/mL.

USES

Clarithromycin acts like erythromycin and has a similar spectrum of antibacterial activity i.e. mainly against G+ve organisms, although it is usefully more active against *Haemophilus influenzae*.

It's used for respiratory tract infections including atypical pneumonias and soft tissue infections.

ADVERSE EFFECTS

Macrolides are enzyme inhibitors and interfere with the metabolic inactivation of some drugs, e.g. theophylline, increasing their effects.

Konakion®

Vitamin K_1 10 mg / ml

Prophylaxis at birth: 0.5 - 1 mg IM (0.05-0.1mL)
PT <32 wk (>1kg): 0.5 mg IM (0.05 mL)
PT <32 wk (<1kg): 0.3 mg IM (0.03 mL)

Severe hemorrhagic disease: 1-10 mg IV slow push

كوناكيون (١٠ مجم / ١ سم) ← ٥ – ١٠ شرطات بسرنجة انسولين ١٠٠ عضل

كوناكيون (١٠مجم / ١سم) (١سم + ٩سم) ← ١ سم وريد ببطء مرتين اسبوعيا

IV infusion rate should not exceed 1 mg/min.

USES

Prophylaxis and therapy of hemorrhagic disease of newborn.

Hypoprothrombinemia

Infants receiving TPN and infants receiving antibiotics for > 2 weeks should be given at least 0.5 mg of vitamin K_1 (IM or IV) weekly to prevent vitamin K depletion.

MONITOR

PT (when treating clotting abnormalities) after 2-4 h.

ADVERSE EFFECTS

Pain and swelling at IM site.

Efficacy is decreased in liver disease.

Vitamin K_1 may require **3h or more** to stop active bleeding so FFP (10 mL/kg) may be necessary when bleeding is severe.

The drug has **no** antagonistic effects against heparin.

L-Carnitine®

(300 mg / ml Oral Liquid) or (1 g / 5 ml IV)

IV (included in TPN):[Gomella2009]
Starting dose of 10 mg/kg/day

PO: 25 mg/kg/dose Q6h.

Primary deficiency and organic acidemias:[BNFC2009]

PO: 50 mg/kg Q12h, higher doses up to 200 mg/kg daily occasionally required.

IVI: initially 100 mg/kg over 30 minutes followed by a continuous infusion of 4 mg/kg/h.

Slow **IV injection over 2–3 minutes:** 100 mg/kg/daily in 2–4 divided doses

USES

L-Carnitine is used in the management of a range of rare genetic conditions associated with carnitine deficiency.

It is essential for the entry of long-chain fatty acids into the mitochondria, where they are oxidized.

ADVERSE EFFECTS

Nausea, vomiting, abdominal pain and diarrhea.

Fishy body odour

Side-effects may be dose-related - monitor tolerance during first week and after any dose increase.

Lanoxin®

Digoxin 500 µg / 2 mL

1

LD: Generally used when treating arrhythmias and acute CHF. Give over 24h as 3 divided doses IV slow push over 5-10 min.

Oral Doses: should be 25% greater than IV doses.

Don't administer **IM**.

لانوكسين (٥٠٠ميكروجرام / ٢ سم) (١سم +٤ سم) ← ... وريد ببطء شديد/... ساعة

لانوكسين شراب (٥٠ميكروجرام / ١سم) ← ... شرطة بسرنجة انسولين ١٠٠ بالفم /... ساعة

Infusion solution concentration 0.05 mg/mL.

Total Loading Dose			Maintenance Doses			
PMA wks	IV µg/kg	PO µg/kg	PMA wks	IV µg/kg	PO µg/kg	Interval hours
≤ 29	15	20	≤ 29	4	5	24
30-36	20	25	30-36	5	6	24
37-48	30	40	37-48	4	5	12
≥ 49	40	50	≥ 49	5	6	12
Divide into 3 doses over 24h			Titrate based on clinical response			

USES

Heart failure caused by diminished myocardial contractility.

SVT, atrial flutter and AF.

MONITOR

HR, Rhythm and Periodic ECG (assess desired effects and signs of toxicity).

Serum K^+, Ca, Mg (esp. with diuretics or amphotericin B); $\downarrow K^+$, $\uparrow$Ca, $\uparrow$Mg predispose to toxicity.

Renal function and Therapeuric serum level (1-2 ng/mL).

Be aware of drug interactions.

Lanoxin®

Digoxin 500 µg / 2 mL 2

ADVERSE EFFECTS / PRECAUTIONS

Toxic Cardiac Effects:

- PR interval prolongation.
- Atrial or nodal ectopic beats.
- Sinus bradycardia or SA block.
- Ventricular arrhythmia.

Non Toxic Cardiac Effects:

- QTc interval shortening.
- T-wave amplitude dampening
- ST segment sagging.
- HR slowing.

Feeding intolerance, vomiting, diarrhea and Lethargy.

INTERACTIONS

ACE Inhibitors: plasma concentration possibly ↑ by captopril.

Analgesics: plasma concentration possibly ↑ by NSAIDs, also possibleexacerbation of heart failure and reduction of renal function.

Antibacterials: plasma concentration possibly ↑ by gentamicin and trimethoprim; plasma concentration possibly ↓ by rifampicin; plasma concentration ↑ by macrolides (↑ risk of toxicity).

Antiepileptics: plasma concentration possibly ↓ by phenytoin.

Amphotericin: ↑ cardiac toxicity if hypokalemia occurs.

Corticosteroids: ↑ risk of hypokalemia.

Diuretics: ↑ cardiac toxicity if hypokalemia occurs with acetazolamide, loop diuretics or thiazides and related diuretics; plasma concentration ↑ by spironolactone.

Lasix®

Furosemide 40 mg / 4 mL

Initial dose: 1 mg/kg **IV** slow push, **IM** or **PO**.

Maximum of 2 mg /kg/dose **IV** or 6 mg/kg/dose **PO**.

Initial intervals: PT Q24h – **FT** Q12h – **FT > 1m** Q6-8h

Consider alternate-day therapy for long term use.

لازكس (٤٠ مجم / ٤سم) ← ... شرطة بسرنجة انسولين ١٠٠ وريد أو عضل /١٢ ساعة

لازكس (٤٠ مجم قرص/ ١٠ سم) ← ... شرطة بسرنجة انسولين ١٠٠ بالفم /١٢ ساعة

Compatible with N5 and sterile water for injection.
Acidic solutions (pH < 5.5) as D_5W, $D_{10}W$ cause **Lasix®** to degrade when they are mixed for several hours.
Brands include: 5alurin® 5mg /5mL 5yrup (not available in Egypt)

USES

Diuretic that may also improve pulmonary function.

HEPATIC IMPAIRMENT

↓ K^+ may precipitate coma (K^+-sparing diuretics prevent this).

RENAL IMPAIRMENT

May need high doses.
Deafness and tinnitus may follow rapid **IV** injection.

MONITOR

Urine output.
5erum electrolytes and phosphorus.
Assess for K^+ depletion in patients receiving digoxin concurrently.
Follow weight changes.

ADVERSE EFFECTS

↓Na^+, ↓K^+ and hypochloremic alkalosis.
Hypercalciuria and renal calculi (long term use).
Ototoxic (especially with aminoglycosides).
Cholelithiasis (in patients with BPD or CHD who received long-term TPN and lasix).

Lipovenös®

Fat Emulsion 20%

Starting Dose: 0.5 g/kg/day IV **Increased By:** 0.5 g/kg/day **Maximum** 3g/kg/day- **Infusion rate:** should not > 0.15 g/kg/hr – **24h infusion time is preferred.**

ليبوفينوس (٢٠٪) (١ جم / ٥ سم) ← ... سم (يضاف الي TPN)

USES

Part of TPN

(Source of calories "2 kcal/mL" and essential fatty acids).

MONITOR

Serum triglycerides (<200 mg/dL)

Liver function test

Platelet count, Glucose, Bilirubin, Albumin

ADVERSE EFFECTS

Hypertriglyceridemia and hyperglycemia.

Extravasation may cause tissue inflammation and necrosis.

Use *minimum dose* in severe hyperbilirubinemia, sepsis or severe pulmonary dysfunction.

Magnesium Sulfate

$MgSO_4$ 10%

Hypomagnesemia or Refractory hypocalcemia:[Neofax2009]

LD: 0.25 mL (0.2 mEq)/kg/dose **IV** or **IM** q6h until the serum magnesium level is normal or symptoms resolve, or 0.8-1.6 mEq/kg/dose **PO** 4 times daily.

MD: 0.25-0.5 mEq/kg/24 h **IV** (add to infusion or give IV).

In PPHN:[BNFC 2009]

LD: 200 mg = 2 mL = 1.6 mEq/kg IVI over 20-30 min

MD: 20-75 mg= 0.2-0.75 mL = 0.16-0.6 mEq/kg/h **IVI** to maintain plasma-Mg concentration between 8.5-13.4 mg/dL (3.5-5.5 mmol/L), given for up to 5 days.

ماغنسيوم سلفات ١٠٪ ← ... سم + ... سم ج ٥٪ على مدى نصف ساعة وريد ثم ... سم يكمل حتى ٢٤ سم ج ٥٪ بمعدل ١ سم / الساعة بالوريد

1 mL **$MgSO_4$ 10 % =** 100 mg **Mg** = 0.8 mEq **Mg**

USE

Hypomagnesemia and Refractory hypocalcemia
PPHN ?!

MONITOR

Monitor serum magnesium, calcium, and phosphate levels.
Infuse IV magnesium sulfate over several hours.

ADVERSE EFFECTS / PRECAUTIONS

Hypotension
Flushing
Depression of reflexes
Depressed cardiac function,
CNS and respiratory depression.
Contraindicated in renal failure.

Maxical-D®

Calcium Carbonate 150 mg / 5 mL

Dose: 20-80 mg elemental Ca/kg/day **PO** in divided doses.

ماكسيكال شراب (١٥٠ مجم / ٥ سم) ← ... سم بالفم / ١٢ ساعة

Each 5 mL contains: 150 mg elemental calcium, 173.25 mg magnesium and 100 IU Vit D_3.

Each 2.5 mg Ca Carbonate contains: 1 mg elemental Ca.

Each 5 ml of Hi-Cal® contains: 1.2 gm calcium glubionate equivalent to 87 mg elemental calcium.

USE

Non-acute hypocalcemia in babies able to tolerate oral medications (absorption in small intestine).

MONITOR

Periodic serum Ca^{++} level.

Assess GI tolerance.

Assess serum phosphorous and vitamin D levels when indicated.

ADVERSE EFFECTS / PRECAUTIONS

Gastric irritation and diarrhea (hypertonic).

Use with caution in infants who are at risk for NEC.

Interferes with absorption of levothyroxine.

Maxipime®

Cefepime 1 g Vials

Dose: as table, **IVI** over 30 minutes, or **IM**

ماكسبيم (١ جم /٢٥سم ج٥٪) ← ... سم وريد على مدى نصف ساعة / ١٢ ساعة

Infusion solution concentration 40 mg/mL.

ماكسبيم (١ جم /٤ سم) ← ... سم عضل / ١٢ ساعة.

IM solution concentration 250 mg/mL.

DOSE	
FT, PT >28 days	50 mg/kg Q12h
FT, PT ≤ 28 days	30 mg/kg Q12h
Meningitis and severe infections with pseudomonas or enterobacter	50 mg/kg Q12h

USES

G-ve organisms (e.g. E.coli, H.influenza, Enterobacter, Klebsiella, Morganella, Neisseria, Serratia and Proteus species), esp. Pseudomonas aeruginosa that is resistant to 3rd generation cephalosporins.

G+ve organisms (e.g. Strep pneumonia, Strep pyogenes, Strep agalactiae and Staph aureus).

ADVERSE EFFECTS (UNCOMMON)

Rash, Eosinophilia

Diarrhea, ↑ Hepatic ALT, AST.

Positive Coombs' test.

Meronem®

Meropenem 500 mg / 100 mL NS

Dose In Sepsis: 20 mg/kg/dose **IVI** over 30 min Q12h

Dose In Meningitis And Pseudomonas Infection: 40 mg/kg/dose **IVI** over 30 min Q8h

ميرونام (٥٠٠ مجم / ١٠٠ سم م م) ← ... سم وريد على مدى نصف ساعة / ٨ ساعات

Infusion solution concentration 5 mg/mL.

RENAL IMPAIRMENT

Cr Cl 26-50 mL/min/1.73m^2⇨ use normal dose Q12h
Cr Cl 10-25 mL/min/1.73m^2⇨ use half normal dose Q12h
Cr Cl <10 mL/min/1.73m^2⇨ use half normal dose Q24h

USES

Pneumococcal meningitis and other G-ve organisms resistant to other antibiotics, especially extended spectrum β–lactamase producing Klebsiella pneumoniae.

MONITOR

Periodic CBC for eosinophilia, thrombocytosis.
Assess IV sites for signs of inflammation.
AST, ALT.

ADVERSE EFFECTS / PRECAUTIONS

Diarrhea (4%), nausea and vomiting (1%).
Rash (2%).
Inflammation at injection site.
↑Risk of pseudomembranous colitis and fungal infections

Minophylline®

Aminophylline 250 mg / 10 mL

LD: 8 mg/kg **IVI** over 30 min or **PO**.

MD (8-12h Later): 1.5-3 mg/kg/dose **PO** or **IV** slow push Q8-12h.

If>55 wks PMA: ↑dose to 25-30 mg/kg/day in divided doses Q4-8h

مينوفيلين(٢٥٠ مجم / ١٠ سم) (١ سم + ٤ سم م م) ← ... بالوريد على مدى نصف ساعة ثم ... بالوريد ببطء / ٨ ساعات

Infusion solution concentration 5 mg/mL

مينوفيلين(٥٠٠ مجم / ٥ سم) (١ سم + ٩ سم م م) ← ... بالوريد على مدى نصف ساعة ثم ... بالوريد ببطء / ٨ ساعات

Infusion solution concentration 10 mg/mL

مينوفيلين شراب (٥٠ مجم / ٥ سم) ← ... شرطة بسرنجة أنسولين ١٠٠ رايل / ٨ ساعات

If changing from IV to PO aminophylline, increase dose 20%

If changing from IV aminophylline to PO theophylline, no adjustment.

USES

Neonatal Apnea, including post-extubation and post-anesthesia and prostaglandin E_1-induced.

Bronchodilator, may improve respiratory function.

MONITOR

Heart rate (withhold next dose if > 180 bpm)

Periodic blood glucose

Agitation

Feeding intolerance

Therapeutic level in apnea of prematurity 7-12 µg/mL and in bronchospasm 10-20 µg/mL.

ADVERSE EFFECTS

GI irritation

Hyperglycemia

CNS irritability and sleeplessness

Renal calcifications when used with furosemide and/or dexamethasone.

TOXICITY

Signs: sinus tachycardia, failure to gain weight, vomiting, jitteriness, hyperreflexia and seizures.

Treatment: activated charcoal 1 g/kg by gavage tube Q 2-4h. Avoid sorbitol-containing preparations; may cause osmotic diarrhea.

Morphine Sulphate (10 mg /mL)

Dose: 0.05-0.2mg/kg/dose IV over at least 5 minutes, repeat as required, usually Q4h.

IVI: 100-150 µg/kg over 1h followed by 10-20 µg/kg/h.

Opioid dependence: begin at most recent IV morphine dose equivalent. Taper to 10-20% per day as tolerated. PO dose is ~ 3-5 times IV dose.

Initial treatment of neonatal narcotic abstinence: 0.03-0.1 mg/kg/dose PO Q3-4h. Wean dose by 10-20% every 2-3 day based on abstinence scoring (the Finnegan score should be <9). Use the 0.4 mg/mL oral morphine solution

مورفين (١٠ مجم / سم) (٠.٥ سم + ٩.٥سم) ← ... سم وريد ببطء شديد /٤ ساعات

Infusion solution concentration 0.5 mg / mL.

مورفين شراب (٠.٤ مجم / سم) ← ...سم بالفم / ٤ ساعات

A 0.4 mg/mL oral morphine solution may be made by adding 0.4 mL of concentrated injectable solution to 9.6 mL of NS.

Stable for 7 days refrigerated and protected from light.

USES

Analgesia, sedation.

Treatment of opioid withdrawal and abstinence

MONITOR

Respiratory and cardiovascular status.

Abdominal distension, loss of bowel sounds

Consider urine retention if UOP is decreased

ADVERSE EFFECTS

Naloxone should be readily available to reverse adverse effects

Respiratory depression (↓ responsiveness of the RC to CO_2 tension)

Hypotension and bradycardia

Transient hypertonia

Ileus and delayed gastric emptying

Urine retention

Tolerance – wean slowly

Seizures ?!

Motinorm®

Domperidone 5 mg / 5 mL

Dose: 0.1-0.3mg/kg/dose Q4-6h **PO** 15 min before feeds

BNFC2009

موتينورم شراب (٥مجم/ ٥سم) ← ... سم بالفم قبل الرضاعة بربع ساعة / ٦ ساعات

USES

Management of severe gastro-esophageal reflux.

Mucosolvan® Solution for oral or inhalation use
Ambroxol hydrochloride 15 mg / 2 mL

Dose: 1.2-1.6 mg/kg/day (4-5 drops/kg/day) PO or inhalation.

ميوكوسولفان (١٥ مجم / ٢ سم) ← ... نقطة بالفم / ١٢ ساعة

ميوكوسولفان (١٥ مجم / ٢ سم) ← ... نقطة + ٢ سم م م **نيبولايزر** / ١٢ ساعة

1 mL = 25 drops

USES

Mucokinetic and secretolytic.

Mycostatin®

Nystatin 100,000 U / mL

PO: 1 mL (PT) to 2 mL (FT) divided and applied with swab to each side of mouth Q6h. Continue for 3 days after symptoms have subsided.

Topical: Apply Q6h. Continue for 3 days after symptoms have subsided.

ميكوستاتين قطارة (١٠٠٠٠٠ وحدة / سم) ← ١-٢ سم مسحة بالفم / ٦ ساعات

ميكوستاتين بيبي كريم (١٠٠٠٠٠ وحدة / جم) ← دهان مكان الحفاظ / ٦ ساعات

USES

Mucocutaneous candida.

MONITOR

Response to drug.

ADVERSE EFFECTS / PRECAUTIONS

Skin rash caused by vehicle in cream.

Narcan®

Naloxone 0.4 mg / mL

Dose: 0.1 mg/kg IV push or IM, if adequate perfusion.

نارکان (٠.٤ مجم / ١ سم) ← ... شرطة بسرنجة انسولين ١٠٠ وريد أوعضل (٢٥ شرطة بسرنجة انسولين ١٠٠ لكل كجم)

Doses needed to reverse narcotic induced depression may be as low as 0.01 mg/kg.

Tracheal administration is *not* recommended.

USES

Narcotic antagonist (onset within minutes after IV dose and within 1h, if given IM).

Adjuvant therapy for customary resuscitation efforts for narcotic-induced respiratory (CNS) depression.

MONITOR

Respiratory effort

Neurologic status

ADVERSE EFFECTS

No short-term toxicity reported.

Nebcin®

Tobramycin 80 mg / 2 mL

Dose: as table. **IVI** over 30 min.

نبسين (٨٠ مجم / ٢ سم) (١ سم + ٩ سم م م) ← ... سم يكمل حتى ١٠ سم م م وريد على مدى ساعة / ... ساعة

Infusion solution concentration 4 mg/mL.

توبـرين (توبريكس) ٠.٣٪ قطرة للعين كل ٤ ساعات

توبـرين (توبريكس) ٠.٣٪ مرهم للعين كل ٨ ساعات

Tobrin® or Tobrex® 0.3% Ophthalmic use: instill 1-2 drops into each eyeQ4h or more often if severe infection, or apply a small amount of ointment into each eye 2-3 times/day or for severe infections Q3-4h.

PMA(wks)	Postnatal(d)	Dose(mg/kg)	Interval(h)
≤ 29 *	0-7	5	48
	8-28	4	36
	≥ 29	4	24
30-34	0-7	4.5	36
	≥ 8	4	24
≥ 35	All	4	24

*** or significant asphyxia, PDA or ttt with indomethacin.**

USES

Aerobic G-ve Bacilli (e.g. Pseudomonas, Klebsiella, E.coli). Usually combined with a β-lactam antibiotic (in separate infusion).

ADVERSE EFFECTS

Transient and reversible renal tubular dysfunction (↑ urinary loss of Na, Ca, and Mg).

Vestibular and auditory ototoxicity.

Increased neuromuscular blockade when used with pancuronium and in patients with hypermagnesemia.

Neomaint Solution

Contents per 1000 mL	
Glucose	120 gm/L
NaCl	1.7535 gm/L
KCl	0.7445 gm/L
K	10 mEq/L
Na	30 mEq/L
Cl	40 mEq/L
Osmolarity	746.7 mOsm/L

Neupogen® (Filgrastim 300 µg/mL)

Granulocyte Colony-Stimulating Factor (G-CSF)

Dose: 10 µg/kg/dose **SC** once a day.

نيبوجين (٣٠٠ ميكروجرام / سم) ← ... شرطة بسرنجة انسولين ١٠٠ تحت الجلد / ٢٤ ساعة

نيبوجين (٣٠٠ ميكروجرام / سم) (... شرطات بسرنجة انسولين ١٠٠ وتكمل حتى ١٠٠ شرطة ج ٥٪) ثم تكمل الى ١٠ سم ج ٥٪ وريد على مدى نصف ساعة بمعدل ٢٠ سم/الساعة

BNFC 2009: for SC or IV injection or infusion, dilute with D_5W to a concentration not less than 1S µg/mL (concentration of 100 µg/mL are adequate for SC use in neonates); to dilute to 2-1S µg/mL, add albumin solution to produce a final albumin solution of 2 mg/mL; **not compatible with NaCl solutions.**

USES

Filgrastim enhances the production and release of WBC from bone marrow. Whether this cytokine can be effective, either prophylactically or therapeutically, in combating neonatal bacterial and fungal infection remains to be established.

Monitor

CBC and Neutrophil Count.

Discontinue if WBCs count exceeds 50 X 10^9/L.

ADVERSE EFFECTS (UNCOMMON)

Fever

Vomiting

Noradrenaline

2 mg / 1 mL (equivalent to 1 mg base/mL)

Dose: 20-100 nanograms(base)/kg/min **IVI** adjusted according to response; max. 1 µg(base)/kg/min.

نورادرينالين (١ مجم / ١ سم) (... سم + ٥٠ سم ج ٥٪) ← وريد على مدى ٢٤ ساعة بمعدل ... سم / الساعة

Infusion solution concentration 40 mg/mL.

Dilute 600 µg (base)/kg to a final volume of 50 mL with infusion fluid (D_5W or NS); an IVI rate of 0.1 mL/hr provides a dose of 20 nanograms(base)/kg/min. Infuse through CVC; discard if discoloured.

Incompatible with bicarbonate or alkaline solutions.

1 mg of noradrenaline acid tartrate is equivalent to 500 micrograms of the base. Dose expressed as the base.

USES

Acute hypotension (septic shock) or shock secondary to excessive vasodilation.

Monitor

Vital signs

Blood pressure

ADVERSE EFFECTS

Hypertension.

Bradycardia and arrhythmias.

Peripheral ischemia

NuTriVene-D® Cap.

Daily Supplement

Dose: as table. Divide dosage and administer **PO** 2-3 times per day.

Weight		Dose
< 20 lbs	< 9 kg	2 Cap.
21 – 40 lbs	10 – 18 kg	4 Cap.
41 – 60 lbs	19 – 27 kg	6 Cap.
61 – 80 lbs	28 – 36 kg	9 Cap.
> 80 lbs	> 37 kg	12 Cap.

USES

Trisomy 21.

INGREDIENTS (Per 12 Cap.)

Total fat	< 1 g	**Vit. A** (Mixed Carotinoids)	3000 iu
Vit. A (Palmitate)	5000 iu	**Vit. D_3** (Cholecalciferol)	300 iu
Vit. E(Succinate)	400 iu	**Biotin**	200 µg
Folic acid	400 µg	**Folinic acid**(Folinate)	400 µg
Niacinamide	125 mg	**Pantothenic acid**	45 mg
Vit. B_1	45 mg	**Vit. B_{12}**(Cyanocobalamin)	90 µg
Vit. B_2(Riboflavin)	45 mg	**Vit. B_6**(Pyridoxine)	35 mg
Vit. C(Na Ascorbate)	1000 mg	**Calcium**(Citrate)	100 mg
Chromium (Cl)	75 µg	**Iodine** (K Iodide)	7 µg
Mg (Oxide)	150 mg	**Mn** (Gluconate)	1.5 mg
Molybdenum	75 µg	**K** (KCl)	15 mg
Selenium	90 µg	**Zinc**	30 mg
Acetyl-L-Carnitine	45 mg	**Choline Bitartrate**	800 mg
L-Citrulline	70 mg	**L-Glutathione** (reduced)	150 mg
L-Histidine	25 mg	**Alpha-Ketoglutaric acid**	500 mg
L-Methionine	150 mg	**L-ornithine**	100 mg
L-Proline	100 mg	**L-Serine**	150 mg
L-Tryptophan	50 mg	**L-Tyrosine**	100 mg
Betaine	500 µg	**Bioflavonoids**	150 mg
Blue berry Powder	150 mg	**Bromelain**	5 mg
Coenzyme	30 mg	**Curcumin**	150 mg
Lutein	6 mg	**Lycopene**	6 mg
Meso. Insositol	75 mg	**Paba**	75 mg
Papain	5 mg	**R-Lipoic acid**	25 mg
Taurine	200 mg		

NuTriVene-D® Cap.

Daily Enzyme Formula

Dose: as table. Administer **PO** 3 times per day.

Weight		Dose
Infants to15 lbs	<6.8 kg	¼ Cap.
15 – 25 lbs	6.8 – 11.3 kg	⅓ Cap.
25 – 35 lbs	11.3 – 15.9 kg	½ Cap.
35 – 50 lbs	15.9 – 22.7 kg	⅔ Cap.
50 – 70 lbs	22.7 – 31.3 kg	¾ Cap.
70 – 100 lbs	31.3 – 45.3 kg	1 Cap.
> 100 lbs	> 45.3 kg	1 – 1⅓ Cap.

USES

Trisomy 21.

INGREDIENTS (Per 1 Cap.)

Lipase	25 mg
Lactase	1 mg
Cellulose	1 mg
Alpha-Amylase	25 mg

Orelox®

Cefpodoxime40 mg / 5 mL susp.

Dose in infants 15 d - 6m: 4 mg/kg/dose **PO** Q12h.[BNFC2009]

أوريلوكس شراب (٤٠ مجم / ٥ سم) ← ... سم بالفم / ١٢ ساعة

USES

Upper respiratory tract infections (but in pharyngitis and tonsillitis reserved for infections which are recurrent, chronic, or resistant to other antibacterials).

Lower respiratory tract infections (including bronchitis and pneumonia)

Skin and soft tissue infections.

Uncomplicated urinary tract infections.

RENAL IMPAIRMENT

GFR 10-40 mL/min/1.73m^2 ⇨↑ dose interval to Q24h.

GFR <10 mL/min/1.73m^2 ⇨↑ dose interval to Q48h.

ADVERSE EFFECTS

Most Frequent:

Serum Sickness, Vulvovaginal Candidiasis.

Less Frequent:

Abdominal Pain with Cramps, Diarrhea, Nausea, Oral Candidiasis, Vomiting.

Rare:

Allergic Reactions, Anaphylaxis, Angioedema, Drug Fever, Erythema, Erythema Multiforme, Hemolytic Anemia, Hypoprothrombinemia, Pruritus of Skin, Pseudomembranous Enterocolitis, Renal Disease, Seizure Disorder, Skin Rash, Stevens-Johnson Syndrome.

Storage

Keep suspension in the fridge for up to 10 days after reconstitution.

Pediamaint Solution

Contents per 1000 mL	
Glucose	100 gm/L
NaCl	2.164 gm/L
KCl	1.49 gm/L
Ca Gluconate	4 gm/L
K	20 mEq/L
Na	37 mEq/L

Penicillin G Sodium®

Benzylpenicillin 1,000,000 units Vial

Menengitis: 75,000 to 100,000 units/kg/dose **IVI** over 30 min or **IM**

Bacteremia: 25,000 to 50,000 units/kg/dose **IVI** over 15 min or **IM**

Congenital Syphilis: 50,000 units/kg/dose **IVI** over 15 min Q12h for 1st 7d then Q8h. Treat for 10-14d.

بنسيلين ج ماني (مليون وحد3/ ٢ سم م م) (½ سم + ٤.٥ سم م م) ← .. سم يكمل حتى ١٠ سم م م ويريد على مدى نصف ساعة / ٨–١٢ ساعة

Na content is 2 mEq per 1 million units (600 mg).
Infusion solution concentration 50,000 units/mL.

PMA (wk)	Postnatal (d)	Interval (h)
≤ 29	0-28	12
	>28	8
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	8

USES

Congenital $, gonococci, streptococci (non enterococcal).

MONITOR

Observe **IV** site for signs of extravasation.
Serum Na^+ and K^+ when using high doses with RF.

ADVERSE EFFECTS

Cardiac arrest (with high doses infused rapidly).
BM depression, granulocytopenia.
Hepatitis.

Phentolamine

Rogitine® 10 mg / 1 mL

1-5 mL of a 1 mg/mL solution is injected SC into affected area (depending on the size of the infiltrate).

روجيتين (١٠ مجم / ١ سم) (١ سم + ٩سم) ← ... سم تحت الجلد

Solution concentration 1 mg / mL.

Don't exceed 0.1 mg/kg **or** 2.5 mg total.

USES

Alpha-blocker agent used for prevention of dermal necrosis and sloughing caused by extravasation of vasoconstrictive agents e.g. dopamine.

MONITOR

Assess affected area for reversal fo ischemia.

Blood pressure.

ADVERSE EFFECTS / PRECAUTIONS

Hypotension (if very large dose is used).

Consider using **topical 2% nitroglycerin** ointment if affected extremity is significantly swollen.

Polyvit® Drops

Vitamin	Per 1 mL (20 drops)
A	10.000 IU
D	2.000 IU (100/drop)
E	2 mg
C	25 mg
Thiamine (B_1)	25 mg
Riboflavin (B_2)	1 mg
Nicotinamide (B_3)	20 mg
Pyridoxine (B_6)	3 mg

بولي فيت...← نقط بالفم أو بالرايل / ٢٤ ساعة

Medical Management of Persistent Cholestasis

Clinical Impairment	Management
Malabsorption of dietary long-chain triglycerides	Replace with dietary formula or supplements containing medium-chain triglycerides
Fat-Soluble Vitamin Malabsorption:	
Vitamin A deficiency (night blindness, thick skin)	10,000–15,000 IU/day as Aquasol A
Vitamin E deficiency (neuromuscular degeneration)	Replace with 50–400 IU/day as oral α-tocopherol or TPGS
Vitamin D deficiency (metabolic bone disease)	5,000–8,000 IU/day of Vit-D_2 or 3–5 μg/kg/day of 25-hydroxycholecalciferol
Vitamin K deficiency (hypoprothrombinemia)	2.5–5.0 mg every other day as water-soluble derivative of menadione
Micronutrient deficiency	Calcium, phosphate, or zinc supplementation
Deficiency of water-soluble vitamins	Twice the RDA
Retention of Biliary Constituents such as Cholesterol:	
Itch or Xanthomas	Choleretic bile acids and ursodeoxycholicacid, 15–20 mg/kg/day
Progressive Liver Disease; Portal Hypertension:	
Variceal bleeding, Ascites and hypersplenism	Interim management (control bleeding; salt restriction; spironolactone)
End-Stage Liver Disease:	
Liver failure	Transplantation

TPGS, D-tocopherol polyethylene glycol 1000 succinate, **RDA,** recommended daily allowance

Potassium Chloride (KCl 15%)

Initial oral replacement therapy: 0.5-1 mEq/kg/day divided and administrated with feedings.

Acute treatment of symptomatic hypokalemia: begin with 0.5-1 mEq/kg IV over 1 hour then reassess.

بوتاسيوم كلورايد (١٥٪) ← ... سم (يضاف الي TPN او المحاليل)

The injectable form may be given in divided doses **PO** and diluted in the infant's formula.

Maximum Peripheral IV solution concentration 0.04 mEq/mL.

Maximum Central IV solution concentration 0.08 mEq/L.

Potassium M® 165 mg / 5 mL

بوتاسيوم شراب (١٦٥ مجم / ٥سم) ← ... سم بالفم مع الرضاعة /٨ ساعات

Each 1 mL = 33 mg = 0.44 mEq

1 mEq K^+ = 74.6 mg KCl (0.5 mL KCl 15%)

MONITOR

Serum K^+ and renal function.

Continuous ECG monitor (if **IVI**).

Check IV site for extravasation.

Assess GI tolerance.

ADVERSE EFFECTS / PRECAUTIONS

Arrhythmias (peaked T-waves, widened QRS, flattened P waves, bradycardia, heart block and cardiac arrest).

Thrombophlebitis and pain at site of infusion.

GI irritation (diarrhea, vomiting, and bleeding) → divide dose and administer with feeding.

Effects of ↓K^+ include neuromuscular weakness, paralysis, ileus, urine retention, ECG changes (ST depression, low voltage T-wave, appearance of U wave) and ↑ digitalis toxicity.

Prostigmine®

Neostigmine 12.5 mg / 5 mL

Myasthenia gravis: 0.1 mg **IM**. Given 30 min before feeding. 1 mg **PO** (Given 2h before feeding). Dose may be increased.

Reversal of neuromuscular blockade: 0.04-0.08 mg/kg IV. In addition to atropine 0.02 mg/kg.

بروستيجمين (١٢.٥ مجم / ٥ سم) (١ سم + ٤ سم ماء مقطر) ...← شرطة بسرنجة انسولين ١٠٠ وريد

Infusion solution concentration 0.5 mg/mL (1:2000).

USES

Neonatal transient or persistent (congenital) myasthenia gravis
Reversing effects of neuromuscular blocking drugs.

Monitor

Respiratory and Cardiovascular status.

ADVERSE EFFECTS

Contraindicated with urinary or intestinal obstruction, bradycardia or hypotension.
Use cautiously in patients with bronchospasm or arrythemia.
Muscle weakness, tremors
Bradycardia, hypotension
Respiratory depression, bronchospasm
Diarrhea and excessive salivation.

Prostin-VR®

Prostaglandin E_2 500 µg / mL

1

Initial Dose: 0.05-0.1 µg/kg/min **IVI**. Titrate to response.

MD: as low as 0.01 µg/kg/min **IVI**.

May be given via UAC positioned near ductus arteriosus.

بروستين (٥٠٠ ميكروجرام / ١ سم) ← ... سم + ٢٤ سم ج ٥٪ وريد عن طريق السرنجة الكهربية بمعدل ... سم / الساعة

Volume of drug needed per day = $\frac{\text{Dose X 1.44 X wt}}{500}$ is added to 24 mL D_5W or N5 and given as **IVI** at a rate of 1 mL/h.

Minimum Infusion solution concentration 10 µg/mL.

MaximumInfusion solution concentration 20 µg/mL.

Must be refrigerated. Prepare fresh infusion solutions every 24h.

Compatible with dopamine, epinephrine, furosemide, heparin, midazolam and KCl.

USES

Promote dilatation of ductus arteriosus in infants with CHD dependent on ductal shunting for oxygenation/perfusion.

Maximum effect seen within 30 min in cyanotic lesions, may take several hours in acyanotic lesions.

Monitor

Respiratory and Cardiovascular status.

Improvement in oxygenation.

Ensure reliable IV access.

Temperature.

Infusion site for extravasation and tissue necrosis.

Prostin-VR®

Prostaglandin E_2 500 µg / mL

ADVERSE EFFECTS

Be prepared to intubate / resuscitate.

Common (6-15%):

- Apnea (consider treatment with aminophylline), seen most often in neonates < 2kg at birth and usually appears during the 1st h of drug infusion.
- Hypotension, cutaneous flushing and bradycardia.
- Fever and leukocytosis.
- Hypokalemia with long term therapy (> 20 days), especially with doses > 0.05 µg/kg/min.
- Gastric outlet obstruction and reversible cortical proliferation of long bones after prolonged ttt (> 120h).

Uncommon (1-5%):

- Seizures.
- Hypoventilation.
- Tachycardia.
- Cardiac arrest.
- Edema.
- Sepsis, diarrhea and DIC.

Rare (<1%):

- Urticaria and bronchospasm.
- Hemorrhage.
- Hypoglycemia and hypocalcemia.

Musculoskeletal changes:

- Widened fontanels
- Pretibial and soft tissue swelling of the extremities may occur after 9 days of therapy.
- Cortical hyperostosis and periostitis may occur with long term use (>3 months).
- These changes resolve over weeks after discontinuation of therapy.

Protam®

Protamine sulfate 10 mg / mL

Dose according to time since last heparin dose given:

<30 min: 1 mg / 100 units of heparin given.

30-60 min: 0.5-0.75 mg / 100 units of heparin given

60-120 min: 0.375-0.5 mg / 100 units of heparin given

>120 min: 0.25-0.375 mg / 100 units of heparin given

Maximum dose: 50 mg

IV Infusion rate should not > 5 mg/min.

Compatible with D_5W and N5.

USES

Heparin antagonist.

MONITOR

Vital signs

Clotting functions

Blood pressure

Bleeding

ADVERSE EFFECTS / PRECAUTIONS

Excessive doses can cause serious bleeding problems

Hypotension, bradycardia, dyspnea, and transitory flushing (in adults).

Pulmicort® Respules

Budesonide 0.5 mg / mL

BPD with assisted ventilation by aerosol inhalation:
0.4 mg twice daily.

BPD with spontaneous respiration by inhalation of nebulizer suspension: 0.5 mg twice daily.

بلميكورت نيبولايزر (½مجم /سم) ← ... سم + ٢ سم م م / ١٢ ساعة

USES

May prevent or treat ventilator-induced chronic lung disease.

Postnatal steroid treatment should only be considered in babies who are ill and ventilator dependent more than a week after birth.

Recombivax®

Hepatitis B Vaccine (HepB)

IM: 0.5 mL given in anterolateral thigh

USES

Should be given to all children before hospital discharge (can be delayed if the mother is a documented HBsAg –ve)

If mother is HBsAg +ve → Give HepB and 0.5 mL of HBIG within 12 h of birth

If mother's HBsAg status is unknown → Give HepB within 12 h and determine HBsAg status as soon as possible and if +ve → Administer HBIG (no later than 1 week)

Hepatitis B Immune Globulin

HBIG

IM:0.5 mL given in the other thigh

PRECAUTION FOR HBIG

When given at the same time as the first dose of HepB → Use a separate syringe and a different site

Draw back on the plunger of the syringe before injection to be certain the needle is not in a blood vessel

ADVERSE EFFECTS / PRECAUTIONS

Local pain and tenderness

Systemic reactions if given IV

Use universal precautions with neonates born to HBsAg +ve mothers until they have been bathed carefully

Rifampicin

Rifocin® 250 mg / 3 mL or Rimactane® 2%

5-10 mg/kg/dose Q12h over 30 min **IVI**

ريفوسين (٢٥٠ مجم / ٣ سم)(١ سم + ٢٤ سم ج٥٪) ← ... بالوريد / ١٢ ساعة على مدى نصف ساعة

10-20 mg/kg/dose Q24h **PO**

ريمكتان شراب (١٠٠ مجم / ٥ سم) ← ... بالفم قبل الرضاعة بساعة / ٢٤ ساعة

Prophylactic for high risk contacts of invasive N. meningitides	S mg/kg/dose **PO** Q12 for 2d

ريمكتان شراب (١٠٠ مجم / ٥ سم) ← ... بالفم / ١٢ ساعة لمدة يومين

Prophylactic for high risk contacts of invasive H. influenza type b	10 mg/kg/dose **PO** Q24 for 4d

ريمكتان شراب (١٠٠ مجم / ٥ سم) ← ... بالفم / ٢٤ ساعة لمدة ٤ أيام

Don't administer IM or SC.

USES

Used in combination with vancomycin or aminoglycosides for ttt of persistent staphylococcal infection.

Prophylaxis against N. meningitides and H. influenza type b.

MONITOR

AST, ALT, bilirubin.

CBC for thrombocytopenia.

IV sites for phlebitis.

ADVERSE EFFECTS / PRECAUTIONS

Orange/red discoloration of body secretions.

Extravasation may cause local irritation and inflammation.

Potent CP4S0 enzyme inducer; ↓ Effect of aminophylline, fluconazole, midazolam, morphine, Phenobarbital, phenytoin, propranolol and zidovudine.

HEPATIC IMPAIRMENT

Avoid use or don't exceed 8 mg/kg daily

Ringer's Lactate

Lactated Ringer's is a solution that is isotonic with blood and intended for IV administration.

Contents:	
Na	130 mEq/L
K	4 mEq/L
Ca	2.7 mEq/L
Bicarbonate (as lactate)	28 mEq/L
Cl	108.7 mEq/L
Osmolarity	273mOsm/L

Rocephin®

Ceftriaxone 0.5 - 1 g Vials

Dose: 50 mg/kg Q24h**IVI** over 30 min, or **IM**.

In Meningitis: 100 mg/kg LD then 80 mg/kg Q24h.

In Uncomplicated Gonococcal Ophthalmia: 50 mg/kg (maximum 12S mg) single dose.

روسفين وريد (١ جم / ١٠ سم ماء مقطر) ← ... سم وريد / ٢٤ ساعة.

Infusion solution concentration 100 mg/mL.

روسفين عضل (٥٠٠ مجم / ٢ سم ليدوكان) ← ... سم عضل / ٢٤ ساعة.

IM solution concentration 250 mg/mL.

Also available as **Cefotrix®** 2S0, S00, 1000 mg vials

USES

Neonatal sepsis and meningitis by G-ve organisms (e.g. E.coli, Pseudomonas, Klebsiella, H.influenza).

Gonococcal infections.

MONITOR

CBC for eosinophilia, thrombocytosis, leuckopenia.

Serum electrolytes, BUN, creatinine.

AST, ALT, bilirubin.

Consider abdominal US.

ADVERSE EFFECTS / PRECAUTIONS

Not recommended for use with hyperbilirubinemio; it displaces bilirubin from albumin binding sites.

Concurrent use of *Co-Containing solutions* in not recommended within 48h of the last administration of ceftriaxone.

Eosinophilia, thrombocytosis and leuckopenia.

Rash, ↑ Bleeding time.

Diarrhea, transient GB precipitations (± colicky abdominal pain, nausea and vomiting), ↑ AST, ALT.

↑ BUN and serum creatinine.

Salbutamol® Albuterol

Ventolin® Farcolin® 5 mg / mL

Salamol® 5 mg / 2.5 mL

DOSE: 0.1-0.5 mg (0.02-0.1 mL)/kg/dose Q2-6h **via nebulizer**.

PO: 0.1-0.3 mg/kg/dose Q6-8h.

For Hyperkalemia: 0.4 mg (0.08 mL)/kg/dose Q2h **via nebulizer**.

سالبيوتامول نيبولايزر(٥ مجم / ١سم) (... شرطة + ٢ سم م م) / ٦ ساعات

فنتولين شراب (٢ مجم / ٥ سم) ← ... شرطة بالفم / ٦ ساعات

USES

Bronchodilator.

Hyperkalemia

MONITOR

Degree of bronchospasm.

Continuous ECG monitor. Stop if HR > 180 bpm.

Serum K^+.

ADVERSE EFFECTS

Tachycardia, arrhythmia.

Tremor

Hypokalemia (drives K^+ intracellularly).

Irritable behavior

Simethicone® 2%

Activated Dimethicone drops or emulsion

Dose: 21 mg with or after each feed (max. 6 doses in 24h); may be added to bottle feed

سايمثيكون ٢٪ نقط←١ سم بالفم بعد الرضاعة / ٤-٨ ساعات

Dentinox® Colic Drops

Simeticone

Dose: 2.5mL with or after each feed (max. 6 doses in 24 hours); may be added to bottle feed.

USES

Colic or wind pain

Solu-cortif® or Flebocortid®

Hydrocortisone 100 mg / 2 mL

Physiologic replacement: 7-9 mg/m^2/day IV or **PO** in 2-3 doses

Stress Dose (pressor and volume resistant hypotension): 20-30 mg/m^2/day **IV** in 2-3 doses or ~ 1 mg/kg/dose Q8h.

Chorioamnionitis-exposed ELBW infants: 0.5 mg/kg/dose IV Q12h for 9 days, then 0.25 mg/kg Q12 hfor 3 days.

سوليوكورتيف (١٠٠مجم / ١٠ سم)← ... سم وريد /٨-١٢ساعة

Infusion solution concentration 10mg/mL.

سوليوكورتيف (١٠٠مجم / ٢ سم) ← ... شرطة بسرنجة انسولين ١٠٠ (جرعة مساوية لاول رقمين من الوزن = 5 mg/kg) وتستكمل حتى ١٠٠ شرطة ج ٥٪ وريد الان فقط

BSA (m^2) = (0.05 X Kg) + 0.05

Available also as **Micort®** 10 mg tab.

USES

Cortisol deficiency.

Pressor-resistant hypotension (↑BP within 2h of 1st dose)

Adjunctive therapy for persistent hypoglycemia

↓ Risk of CLD in ELBW infants exposed to chorioamnionitis.

MONITOR

Blood pressure and Blood glucose during acute illness.

ADVERSE EFFECTS

Hyperglycemia.

Hypertension, salt and water retention.

↑ Risk of GI perforation when used with indomethacin.

↑ Risk of disseminated Candida infections.

Sominaletta®

Phenobarbital

1

LD: 20 mg/kg **IV** slowly over 10-15 min, with refractory seizures add 5 mg/kg doses, up to a total of 40 mg/kg.

MD: 3-4 mg/kg/day (12-24 after LD) **IV, IM, PO** or **PR**. Given daily (Q12h probably unnecessary).

سومينالينا (٤٠ مجم /سم) (١ سم + ٣ سم ج ٥٪) ← ٢ سم لكل كجم ثم ½ سم لكل كجم بحد أقصى ٤ جرعات ثم بعد ١٢ ساعة ... شرطة بسرنجة انسولين ١٠٠ وريد ببطء شديد كل ١٢ ساعة

سومينالينا شراب (١٥ مجم /٥ سم) ← ... سم /١٢ساعة بالفم

Infusion solution concentration 10 mg/mL.

USES

Anticonvulsant.

May improve outcome in severely asphyxiated infants, used prior to onset of seizures (40 mg/kg **IVI** over 1h)

May enhance bile excretion in patients with cholestasis before ^{99}Tc-IDA scanning.

MONITOR

Therapeutic level 15-40 µg/mL.

Altered (usually↑) serum concentrations if used with phenytoin or valproate.

HEPATIC IMPAIRMENT

May precipitate coma.

Avoid in severe impairment.

RENAL IMPAIRMENT

Use with caution.

Sominaletta®

Phenobarbital

ADVERSE EFFECTS

Sedation at serum level > 40 µg/mL.

Respiratory depression at serum level > 60 µg/mL.

Irritating to veins.

INTERACTIONS

Analgesics: barbiturates possibly ↑ CNS effects of opioid analgesics.

Antibacterials: barbiturates accelerate metabolism of chloramphenicol, doxycycline and metronidazole (↓ plasma concentration); phenobarbital possibly ↓ plasma concentration of rifampicin.

Plasma concentration of phenobarbital often ↑ by **phenytoin**, plasma concentration of phenytoin often ↓ but may be ↑.

Barbiturates possibly ↓ plasma concentration of **propranolol**.

Cardiac Glycosides: barbiturates accelerate metabolism of digitoxin (reduced effect).

Corticosteroids: barbiturates accelerate metabolism of corticosteroids (reduced effect).

Diuretics: ↑ risk of osteomalacia when phenobarbital given with carbonic anhydrase inhibitor.

Theophylline: barbiturates accelerate metabolism of theophylline (reduced effect).

Thyroid Hormones: barbiturates accelerate metabolism of thyroid hormones (may ↑ requirements for thyroid hormones in hypothyroidism).

Vitamins: barbiturates possibly ↑ requirements for vitamin D.

Spironolactone

Aldactone® 25 mg tab.

Dose: 1 - 3 mg/kg Q24h **PO.**

الداكتون (٢٥ مجم قرص / ١٠ سم) ← ... شرطة بسرنجة انسولين ١٠٠ بالفم/ ٢٤ ساعة.

USES

In combination with other diuretics in treatment of CHF and BPD (situtions of increased aldosterone secretion).

Ascites and edema.

Reduction of hypokalemia induced by diuretics or amphotericin.

Addition of spironolactone to thiazide diuretic therapy in BPD may yield little, if any, additional benefit.

May require several days of therapy before effect is seen.

MONITOR

Serum K^+ in long term therapy (discontinue if ↑).

Measuring urinary K^+ is a useful indicator of effectiveness.

RENAL IMPAIRMENT

Use with caution.

Monitor K^+ concentration; high risk of hyperkalemia in RF

Avoid if rapidly deteriorating or severe renal impairment.

ADVERSE EFFECTS

Hyperkalemia, hyponatremia.

False positive ELISA screening for congenital adrenal hyperplasia.

Rash.

Vomiting, diarrhea.

Dose-dependent androgenic effect in females.

Gynecomastia in males.

A tumorigen in chronic animal toxicity studies.

Sulperazon®

Cefoperazone / Sulbactam 1.5 g / 25 mL

Dose: 30 - 40 mg/kg/dose **IV** Q12h

سالبيرازون (١.٥ جم / ٢٥ سم ماء مقطر) ← ... سم وريد / ١٢ ساعة

Infusion solution concentration 60 mg/mL.

Cefobid®

Cefoperazone 1 g/10 mL

Dose:25 - 50 mg/kg/dose **IM**Q12h

سيفوبيد (١ جم / ١٠ سم ماء مقطر) ← ... سم عضل / ١٢ ساعة

Solution concentration 100 mg/mL.

MONITOR

Renal function (if used with aminoglycosides).

CBC.

Liver enzymes.

ADVERSE EFFECTS

Hypersensitivity, skin reactions, fever and a change in Coombs' test.

Reversible neutropenia, decreased hemoglobin or hematocrit, transient eosinophilia.

Diarrhea or loose stools.

Pseudomembranous colitis.

Transient elevations of BUN and serum creatinine.

Survanta®

Beractant, Intratracheal Suspension 4 or 8 mL vials

DOSE: 4 mL/kg/dose, intratracheally, divided into 4 aliquots, given as soon as possible after birth, preferably within 8 hours of birth; may be repeated within 48h at intervals of at least 6h for up to 4 doses.

Each mL of Survanta® contains 25 mg of phospholipids.

It is an off-white to light brown liquid supplied in single-use glass vials containing 4 mL (100 mg phospholipids) or 8 mL (200 mg phospholipids).

USES

Prophylaxis (<29wk gestation).
Rescue treatment of moderate to severe RDS.
Respiratory failure in mature infants due to MAS, pneumonia, PPHN.

MONITOR

ETT patency and position
O_2 saturation, ECG, and blood pressure.
Impaired gas exchange caused by blockage of the airway.
Frequent assessment of oxygenation / ventilation.

ADVERSE EFFECTS / PRECAUTIONS

If infant becomes dusky or agitated, HR slows, O_2 saturation falls > 15% or surfactant backed up in the ETT, dosing should be slowed or halted.
Pulmonary hemorrhage (2-4%), mostly the smallest infants with untreated PDA.

How To Use Survanta®

Swirl the vial gently (DO NOT SHAKE) to redisperse settling.

Warm the vial by standing at room temperature for at least 20 minutes or warm in the hand for at least 8 minutes. Artificial warming methods shouldn't be used. If a prevention dose is to be given, preparation of **Survanta®** should begin before the infant's birth.

Unopened vials of **Survanta®** that have been warmed to room temperature may be returned to the refrigerator within 24h of warming, and stored for future use. **Survanta®** SHOULD NOT BE REMOVED FROM THE REFRIGERATOR FOR > 24 h. **Survanta®** SHOULD NOT BE WARMED AND RETURNED TO THE REFRIGERATOR > ONCE.

Used vials with residual drug should be discarded.

Survanta® is administered intratracheally by instillation through a S-F end-hole catheter. The length of the catheter should be shortened so that the tip of the catheter protrudes just beyond the end of the ET above the infant's carina. **Survanta®** should not be instilled into a mainstem bronchus.

The catheter can be inserted into the infant's by briefly disconnecting the ET from the ventilator. After administration of each quarter-dose, the catheter is removed and the infant is ventilated for at least 30 seconds until stable.

To ensure homogenous distribution of **Survanta®** throughout the lungs, each dose is divided into four *quorter-doses*. Each quarter-dose is administered with the infant in a different position. The recommended positions are:

- Head and body inclined S-10° down, head turned to the right
- Head and body inclined S-10° down, head turned to the left
- Head and body inclined S-10° up, head turned to the right
- Head and body inclined S-10° up, head turned to the left

SURVANTA® DOSING CHART

WEIGHT (gm)	TOTAL DOSE (mL)	WEIGHT (gm)	TOTAL DOSE (mL)
600- 650	2.6	1301- 1350	5.4
651- 700	2.8	1351- 1400	5.6
701- 750	3.0	1401- 1450	5.8
751- 800	3.2	1451- 1500	6.0
801- 850	3.4	1501- 1550	6.2
851- 900	3.6	1551- 1600	6.4
901- 950	3.8	1601- 1650	6.6
951- 1000	4.0	1651- 1700	6.8
1001- 1050	4.2	1701- 1750	7.0
1051- 1100	4.4	1751- 1800	7.2
1101- 1150	4.6	1801- 1850	7.4
1151- 1200	4.8	1851- 1900	7.6
1201- 1250	5.0	1901- 1950	7.8
1251- 1300	5.2	1951- 2000	8.0

Sutrim® (Co-trimoxazole)

Trimethoprim+Sulfamethoxazole 40+200mg / 5mL

Dose: 24 mg/kg/24h **PO** in the 1st week of life then Q12h.

Pneumocystis carinii pneumonia: 24 mg/kg Q6h PO in babies > 4 wks.

ستريم شراب (٢٤٠ مجم / ٥ سم) ← ... سم بالفم / ٢٤ ساعة

USES

To treat cholera.

To prevent and treat Pneumocystis carinii infection.

It has been used to treat uncomplicated malaria, and also used in meningitis because of good tissue and CSF penetration.

Respiratory and urinary tract infections

Severe systemic infection, possible combined immune deficiency, or overt HIV, to reduce the risk of bacterial infection.

AVOID IN BABIES WITH

Severe liver disease.

Serious unconjugated jaundice.

Acute porphyria.

ADVERSE EFFECTS / PRECAUTIONS

Co-trimoxazole increases the plasma half life of phenytoin.

Risk of haemolytic anaemia in babies with G6PD deficiency

RENAL IMPAIRMENT

GFR 15–30 mL/min/1.73m^2 ⇨ Use half normal dose.

If GFR < 15 mL/min/1.73m^2 or if plasma level of sulfamethoxazole can't be monitored ⇨ Avoid.

Targocid®

Teicoplanin 200 mg / 5 mLNS

Dose: 16 mg/kg LD **IV** followed by 8 mg/kg **IV** or **IM** once Q24h. Treat proven septicemia for at least 7 days.

تارجوسيد (٢٠٠ مجم / ٥ سم م م) ← ... سم عضل أو تكمل حتى ١٠ سم وتعطى وريد على مدى نصف ساعة / ٢٤ ساعة

Infusion solution concentration 40 mg/mL.

USES

Teicoplanin is active against many **G+ve anerobes** and is particularly potent against Clostridium species. It is also active against most Listeria, enterococci and staphylococci (including **MRSA**) although it may work more as a bacteriostatic drug than as a bactericidal drug.

Vancomycin resistant organisms are sometimes sensitive to teicoplanin.

Rifampicin may be synergistic in the management of staph.infection.

MONITOR

CBC

ALT, AST

Renal and auditory function on prolonged administration during renal impairment or if other nephrotoxic or neurotoxic drugs given.

RENAL IMPAIRMENT

Reduce dose on day 4:

Use half normal dose if estimated GFR is 40-60 mL/min/1.73m^2

Use ¼ normal dose if estimated GFR is < 40 mL/min/1.73m^2

ADVERSE EFFECTS

Leucopenia and thrombocytopenia.

Disturbances of liver function.

Tazocin®

Piperacillin + Tazobactam 4.5 g / 90 mL

Dose: 50-100 mg/kg/dose (as piperacillin component) **IVI** over 30 min.

Na content is 2.35 mEq per gram of piperacillin.

Piperacillin : Tazobactam = 8:1.

Dose is calculated as for piperacillin component.

تازوسين (٤.٥ جم / ٩٠ سم) ← ... سم وريد على مدى نصف ساعة /٨ ساعات

Infusion solution concentration 50 mg/mL.

PMA (wk)	Postnatal (d)	Interval (h)
≤ 29	0-28	12
	>28	8
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	8

USES

Non-CNS infections, caused by susceptible β-lactamase producing bacteria (e.g. E. coli, Enterobacter, Klebsiella, H. Influenzae, Proteus mirabilis, Pseudomonas spp., and Staph. Aureus. Also effective against group B Streptococcus.

MONITOR

Observe IV site for signs of extravasation.

ADVERSE EFFECTS

Eosinophilia

Hyperbilirubinemia

↑ AST, ALT, BUN and serum creatinine.

Tienam®

Imipenem / Cilastatin 500 mg / 100 mL

Dose: 20-25 mg/kg/dose Q12h **IVI** over 30 min.

تينام (٥٠٠ مجم / ١٠٠ سم م م) ← ... سم وريد على مدى نصف ساعة /١٢ ساعة

Infusion Solution concentration 5 mg/mL.

USES

Non-CNS infections caused by bacteria, primarily Enterobacteriaceae and anaerobes, resistant to other antibiotics.
Broad-spectrum of activity includes many G+ve and G-ve bacteria and anerobes; Imipenem has good activity against *Pseudomonos aeruginosa*. *Not* active against MRSA and Enterococcus faecium.

MONITOR

Periodic CBC
Liver enzymes
IV sites for phelibitis.

RENAL IMPAIRMENT

Not licensed for use in children with renal impairment
Cr Cl <70 mL/min/1.73m^2⇨Reduce dose

ADVERSE EFFECTS / PRECAUTIONS

Seizures in patients with meningitis, preexisting CNS pathology, and severe renal dysfunction.
Local reaction at injection site.
Increased platelet count and Eosinophilia.
Elevated liver enzymes
Diarrhea

Unasyn®

Ampicillin/Sulbactam 750 mg / 20 mL

Dose: 1S0 mg/kg/day **IV** Q8-12h.

Dose may be doubled in meninigitis.

يوناسين(٧٥٠ مجم / ٢٠ سم)← ... سم وريد ببطء /٨–١٢ ساعة

Infusion solution concentration 37.S mg/mL.

PMA weeks	Postnatal Days	Interval hours
≤ 29	0-28	12
	>28	8
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	6

USES

Broad-Spectrum bactericidal against GBS, Listeria monocytogenes and susceptible E. coli species.

RENAL IMPAIRMENT

Reduce dose or frequency if estimated GFR < 10 mL/min/1.73m^2.
Rashes are more common.

ADVERSE EFFECTS / PRECAUTIONS

Very large doses may result in CNS excitation or seizure activity.
Hypersensitivity reactions are rare in neonates (maculopapular rash, urticarial rash or fever).

Ursogall®

Ursodeoxycolic acid 158.5 mg / 5 mL

Dose: 10-15 mg/kg/dose **PO** Q12h

أورسوجول شراب (١٥٨.٥مجم / ٥ سم) ← ... سم بالفم / ١٢ ساعة

Solution concentration 31.7 mg/mL.

USES

Cholestatsis associated with TPN, biliary atresia and cystic fibrosis.

Dissolve cholesterol gallstones (may take several months).

MONITOR

ALT, AST.

Serum direct bilirubin.

HEPATIC IMPAIRMENT

Avoid in chronic liver disease (but used in primary biliary cirrhosis).

ADVERSE EFFECTS / PRECAUTIONS

Nausea, vomiting.

Abdominal pain.

Constipation.

Flatulence.

Aluminum-containing antacids bind ursodiol and inhibit absorption.

Vancomycin

Vancocin® 500 mg / 100 mL

1

Meningitis: 15 mg/kg/dose **IVI** over 1h.

Bacteremia: 10 mg/kg/dose **IVI** over 1h.

Prophylaxis of NEC: 15 mg/kg/dose Q8h **PO.**

Intrathecal/Intraventricular: 5-10 mg/day.

فانكوميسين (٥٠٠ مجم / ١٠٠ سم)← ... سم وريد على مدى ساعة /٨ ساعات

Infusion solution concentration 5 mg/mL.

IV form can be used to prepare solution for oral administration.

PMA (wks)	Postnatal (d)	Interval (h)
≤ 29	0-14	18
	>14	12
30-36	0-14	12
	>14	8
37-44	0-7	12
	>7	8
≥ 45	All	6

USES

Bactericidal against **aerobic** and **anerobic G+ve** bacteria including multi-resistant Staph. However, there are reports of Staph. aureus with ↓ susceptibility. There are ↑ reports of glycopeptide resistant Enterococci.

Penetration in to CSF is poor.

Used by mouth in prophylaxis of NEC.

MONITOR

Renal function and IV sites for phlebitis.

RENAL IMPAIRMENT

Reduce dose.

Monitor plasma concentration and renal function regularly.

Vancomycin

Vancocin® 500 mg / 100 mL

2

ADVERSE EFFECTS / PRECAUTIONS

Nephrotoxicity (higher incidence with serum trough concentration > 10 µg/mL).

Ototoxicity (with prolonged serum peak concentration >40 µg/mL).

Rash and hypotension (red man syndrome), resolves within minutes to hours→↑ infusion time.

Neutropenia (if administrated > 3 wks).

Phlebitis →↓ Rate, dilute drug or rotate infusion sites.

SERUM LEVEL

Should be measured after 3-4 doses if renal function normal, earlier if renal impairment.

Trough: 5-10 µg/mL – 15-20 µg/mL when treating MRSA pneumonia, endocarditis or bone/joint infections (Draw 30 minutes prior to scheduled dose).

Peak: 30-40 µg/mL when treating meningitis (Draw 30 minutes after end of infusion).

INTERACTIONS WITH

General Anaesthetics: hypersensitivity-like reactions.

Aminoglycosides:↑ risk of nephrotoxicity and ototoxicity.

Amphotericin: possible ↑ risk of nephrotoxicity.

Loop diuretics:↑ risk of otoxicity.

If staphylococci exhibit tolerance to the drug, combine it with an aminoglycoside, with or without rifampicin.

Valium® - Epival® - Neuril®

Diazepam10 mg / 2 mL

Slow IV: 0.3-0.4 mg/kg repeated once after 10 min if necessary.

PR: 1.25–2.5 mg repeated once after 10min if necessary.

فاليام (١٠ مجم / ٢ سم)← ... سم وريد ببطء شديد الأن فقط

Infusion solution concentration 5 mg/mL.

Avoid injections containing benzyl alcohol in neonates.

Available also as **Stesolid Rectal Tubes®**2.5-5-10 mg per tube.

Brands include: Epival® and Neuril®.

USES

Status epilepticus.

convulsions caused by poisoning

ADVERSE EFFECTS / PRECAUTIONS

Close observation is required until full recovery from sedation.

When given IV, facilities for reversing respiratory depression with mechanical ventilation must be at hand.

Muscle weakness.

Hypotension.

Gastro-intestinal disturbances, incontinence, urinary retention.

Blood disorders and jaundice reported; skin reactions.

IV injection→ Pain and thrombophlebitis.

CONTRAINDICATIONS

Respiratory depression.

Marked neuromuscular respiratory weakness including unstable myasthenia gravis.

RENAL IMPAIRMENT

Start with small doses.

Increased cerebral sensitivity.

HEPATIC IMPAIRMENT

Reduce dose as it may precipitate coma.

Avoid in severe impairment.

Viagra®

Sildenafil 50 mg tab. / 25 mL

Neofax 2009: 0.3-1 mg/kg/dose via **orogastric tube** Q6-12h.

BNFC 2009: initially 0.25-0.5 mg/kg/dose Q4-8h, adjusted according to response; max. 2 mg/kg/dose Q4h; start with lower dose and frequency especially if used with other vasodilators; withdraw gradually.

فياجرا (قرص ٥٠ مجم / ٢٥مرم) ← ...سم بالوريد / ٦-١٢ ساعة

Final concentration of 2 mg/mL.
Stable for 1 month if refrigerated.

USES

PPHN refractory to iNO and other therapies.
Improve pulmonary blood flow in severe **Ebstein's anomaly.**

MONITOR

Blood pressure
Oxygenation

HEPATIC IMPAIRMENT

Reduce dose if not tolerated in mild to moderate impairment; avoid in severe impairment.

RENAL IMPAIRMENT

Reduce dose if not tolerated.

ADVERSE EFFECTS

Worsening oxygenation and systemic hypotension.
Use with caution in infants with sepsis.
↑Risk of ROP, **bleeding??**

Vitamin D

Decal-B_{12}® Syrup or ViDrop® Drops

< 37 wks: 10-20 µg/day (400-800 u/day) **PO**.

≥ 37 wks: 10 µg/day (400 u/day) **PO.**

Administer IM for fat malabsorption.

ديكال- ب ١٢ شراب (١٠٠٠ وحدة / ٥ سم) ← ٢-٤ سمبالفم / ٢٤ ساعة

في - دروب نقط (٢٨٠٠ وحدة / سم) ← ٤ - ٨ نقط بالفم / ٢٤ ساعة

وان - ألفا نقط (٢ ميكروجرام / سم) ← ... نقط بالفم / ٢٤ ساعة

Decal-B12® = 1000 u Vit D_3, 50 mg Ca, 10 µg Vit B_{12} per 5mL

ViDrop®= 2800 u Vit D_3 per 1 ml (= 28 drops)

IM Preparations

Devarol-S® 60.000 u / 2 mLamp.

Sterogel® "H" 60.000 u / 1.5 mL amp.

Dose of One-Alpha® in neonates: 0.05-0.1 µg/kg/day; equal to 1-2 drops/2kg/day (each drop = 0.1 µg alfacalcidol). With severe hypocalcemia, up to 40 drops/2kg/day may be needed.
(According to product information leaflet)

USE

Refractory rickets
Hypophosphatemia
Hypoparathyroidism

MONITOR

Serum Ca^{++} and phosphorus.
Alkaline phosphatase (Levels of ALP approximately 7.5 times above the adult range indicates active disease).

ADVERSE EFFECTS / PRECAUTIONS

Acidosis, Hypertension and Arrhythmia
Hypervitaminosis D: hypercalcemia, azotemia, ↑ serum creatinine, mild hypokalemia, diarrhea, polyuria, metatstatic calcification and nephrocalcinosis.

Vitaphos® Elixir

Appetizer and General Tonic with Vitamin B Complex

Each 15 mL contains	
Vitamin B1	2 mg
Vitamin B2	1 mg
Vitamin B6	2 mg
Nicotinamide	10 mg
Calcium glycerophosphate	114.5 mg
5odium glycerophosphate	114.5 mg
Potassium glycerophosphate	114.5 mg
Magnesium glycerphosphate	57 mg

Zantac®

Ranitidine 50 mg / 2 mL

PO: 2 mg/kg/dose Q8h (unreliable absorption), max. 3 mg/kg 3 times daily.

FT IV dose: 1.5 mg/kg/dose Q8h slow push

PT IV dose: 0.5 mg/kg/dose Q12h slow push

IVI: 0.0625 mg/kg/h

زانتاك (٥٠ مجم / ٢ سم) (½ سم + ١٢ سم ج٥٪) ← ...سم وريد ببطء / ٨-١٢ ساعة

زانتاك شراب (٧٥ مجم / ٥ سم) ← ... شرطة بسرنجة انسولين ١٠٠ بالفم / ٨ ساعات

Infusion solution concentration 1 mg/mL.

Syrup form is not available in Egypt yet.

USES

Prevention and treatment of stress ulcers and GI hemorrhage aggravated by gastric acid secretion.

MONITOR

Gastric pH to assess efficacy.

RENAL IMPAIRMENT

Use ½ normal dose if GFR < 50 mL/min/1.73m^2.

ADVERSE EFFECTS

Thrombocytopenia ?

In adults: ↑AST, ALT, leucopenia and bradycardia.

Very rarely: interstitial nephritis.

Zithromax®

Azithromycin 200mg/5ml Susp. - 500 mg Vials

Dose for Pertussis: 10 mg/kg/dose PO Q24h for 5 days

Dose for C. trachomatis Conjunctivitis and Pneumonitis: 20 mg/kg/dose PO Q24h for 3 days

? IV Dose: 5 mg/kg/dose Q24h *IV*over 60 min.

زيثروماكس شراب (٢٠٠ جم / ٥ سم) ← ... شرطة بسرنجة انسولين ١٠٠ قبل الرضاعة بساعة بالفم / ٢٤ ساعة

Don't refrigerate. Use within 10 days once bottle has been opened.

زيثروماكس (٥٠٠مجم / ٥سم) (½ سم + ٤٩.٥ سم)← ... سم وريد على مدى ساعة / ٢٤ ساعة

Infusion solution concentration 1mg/mL, dilute prior to use.

USES

Treatment and post-exposure prophylaxis against B. pertussis.

As a substitute of penicillin.

MONITOR

GI Tolerance.

HEPATIC IMPAIRMENT

Avoid, jaundice reported.

ADVERSE EFFECTS / PRECAUTIONS

Diarrhea and/or vomiting (5-12%).

Irritability, rash and blood in stool.

Pyloric stenosis ?!

Zyvox®

Linezolid 200 mg / 100 ml

Dose: 10 mg/kg/dose Q12h if < 1 wk old, and Q8h after thatIVI over 30-120 min. Treatment is usually continued for 2 wks.

زيفوكس (٢٠٠ مجم / ١٠٠ سم) ← ... سم وريد / ٨-١٢ ساعة على مدى ساعة

Infusion solution concentration 2 mg/mL.

USES

Only used, on microbiological advice, to treat MRSA and VRE infection.
Active against a range of **G+ve** bacteria, including MRSA, VRE and resistant strains of Strept. pneumoniae. Active against some **anerobes**, including Clostridium perfringens, Clostridium difficile and Bacteroides fragilis.
Enterobacteriaceae and Pseudomonas aeruginosa are *not* susceptible.

MONITOR

Blood pressure during co-administration with any sympathomimetic drugs.
Monitor CBC (including platelet count) weekly

HEPATIC IMPAIRMENT

No dose adjustment is necessary but in severe hepatic impairment use only if potential benefit outweighs risk.

RENAL IMPAIRMENT

No dose adjustment necessary but metabolites may accumulate if estimated GFR < 30 mL/min/1.73m^2.

ADVERSE EFFECTS / PRECAUTIONS

Reversible thrombocytopenia (when given for more than 10–14 days).
A higher incidence of blood disorders and optic neuropathy have been reported in patients receiving **Zyvox®** for more than the maximum recommended duration of 28 days.
Diarrhea (antibiotic-associated colitis) and vomiting.
Less commonly dry mouth, glossitis, stomatitis, tongue discoloration, abdominal pain, gastritis, constipation, pancreatitis, hypertension, fever, polyuria, anemia, leucopenia, eosinophilia, electrolyte disturbances, blurred vision, rash and injection-site reactions
Very rarely renal failure, pancytopenia and Stevens-Johnson syndrome; lactic acidosis; peripheral and optic neuropathy.

Addamel N®

Trace Elements

Contents Per mL *Chromic Cl* 5.33 mcg, *copper chloride* 0.34 mg, *xylitol* 300 mg, $FeCl_3$0.54 mg, *K iodide* 16.6 mcg, *manganese Cl* 99 mcg, *Na fluoride* 0.21 mg, *Na molybdate* 4.85 mcg, *Na selenite* 10.5 mcg, $ZnCl_2$1.36 mg

Soluvit N®

Water-Soluble Vitamins

Contents Per Vial *Thiamine nitrate* 3.1 mg, Sodium riboflavine phosphate 4.9 mg (corresponding to *Vitamin* B_2 3.6 mg), *Nicotinamide* 40 mg, Pyridoxine hydrochloride 4.9 mg (corresponding to *Vitamin* B_6 4.0 mg), *Pantothenic acid* 15.0 mg, Sodium ascorbate 113 mg (corresponding to *Vitamin C* 100 mg) *Biotin* 60 microgram, *Folic acid* 400 micrograms, *Cyanocobalamin* 5.0 microgram, *Glycine* 300 mg, *Edetate sodium* 500 micrograms, (with preservative, 500 micrograms methyl hydroxybenzoate)

Vitalipid N®

Fat-Soluble Vitamins

Per mL Vitalipid N Adult *Retinol* 99 mcg, *calciferol* 0.5 mcg, *α-tocopherol* 0.91 mg, *phytomenadione* 15 mcg, *fractionated soybean oil* 100 mg, *fractionated egg phospholipids* 12 mg.

Per mL Vitalipid N Infant *Retinol* 69 mcg, *calciferol* 1 mcg, *α-tacopherol* 0.64 mg, *phytomenadiane* 20 mcg, *fractionated soybean oil* 100 mg, *fractianated egg phospholipids* 12 mg.